

EXPERIMENTAL INVESTIGATION OF SHOCK-CELL NOISE REDUCTION FOR SINGLE-STREAM NOZZLES IN SIMULATED FLIGHT

Contract NAS3-22514

(NASA-CR-168234-Vol-1) EXPERIMENTAL
INVESTIGATION OF SHOCK-CELL NOISE REDUCTION
FOR SINGLE-STREAM NOZZLES IN SIMULATED
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Comprehensive Data Report

Volume I

Test Nozzles And Acoustic Data

by

K. Yamamoto
J.F. Brausch
B.A. Janardan
D.J. Hoerst
A.O. Price
P.R. Knott



GENERAL ELECTRIC

For

**National Aeronautics and Space Administration
Lewis Research Center
21000 Brookpark Road
Cleveland, Ohio 44135**



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16. Abstract This Comprehensive Data Report, composing three volumes, includes the basic test description and test results which are analyzed and documented in the companion Final Report. Volume I contains a description of the model nozzle configurations, acoustic test conditions, and detailed test results from the hot static and simulated flight acoustic tests at the General Electric Anechoic Chamber. Volume II presents the diagnostic laser velocimeter test results. Volume III contains the diagnostic flow visualization test results obtained by shadowgraph along with a description of test facilities and data acquisition and reduction techniques. Design drawings of scale model nozzles are also included in Volume III.		
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VOLUME I

TEST NOZZLES AND ACOUSTIC DATA

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1.0 INTRODUCTION

This and two companion volumes constitute the Comprehensive Data Report (CDR) for the research program conducted under NASA Contract NAS3-22514. Detailed schematics of the scale model nozzle configurations, tabulations of aerodynamic test conditions, and computer listings of the measured acoustic data are presented in Volume I. Volume II contains tabulations of the aerodynamic test conditions of the laser velocimeter tests and the LV-measured flow field data. Diagnostic shadowgraph photo test results and static pressure data are presented in Volume III along with a brief description of the General Electric Anechoic Free-Jet Facility, details of the data acquisition and reduction procedures, and the design drawings of the nozzles fabricated during this program.

2.0 SCALE MODEL NOZZLE CONFIGURATIONS

A total of seven nozzle configurations were tested during the course of this program; all of single flow geometry. They were grouped in sets in order to study the impact of convergent-divergent flowpaths on acoustic and aerodynamic properties relative to baseline convergent flowpaths. Three sets were structured around systems of a) circular non-plug (Models 1 and 2), b) annular plug, non-mechanically suppressed (Models 3 and 4), and c) annular plug, mechanically suppressed (Models 5 and 6). The seventh configuration (Model 3 w/tabs) was a modification of the convergent annular plug, non-mechanically suppressed system, to evaluate a potential method for shock screech elimination. The configurations are briefly described as follows:

- Model 1 - Baseline Conical-Convergent Nozzle
- Model 2 - Circular Convergent-Divergent Nozzle, Design Point at $M = 1.4$
- Model 3 - Baseline Contoured Convergent Annular Plug Nozzle (Non-Mechanically Suppressed)
- Model 3 w/Tabs - Baseline Contoured Convergent Annular Plug Nozzle with Shock Screech Tabs (Non-Mechanically Suppressed)
- Model 4 - Convergent-Divergent Annular Plug Nozzle (Non-Mechanically Suppressed)
- Model 5 - 20 Chute Annular Plug Suppressor, Convergent Flow Element Terminations
- Model 6 - 20 Chute Annular Plug Suppressor, Convergent-Divergent Flow Element Terminations

Within this section the basic model geometries will be described in schematic and photo form. Model aerodynamic instrumentation will be defined in a similar manner, where applicable. Table 2-1 summarizes the seven configurations with their applicable geometric schematics. For further detailed definition of model hardware components, Appendix VI is included and presents geometric details and photos plus instrumentation details and photos of each configuration. For ease of reference, Table 2-1 also lists each configuration's

applicable figures which are presented in Appendix VI.

2.1 MODEL 1: BASELINE CONICAL-CONVERGENT NOZZLE

The geometric dimensions of this configuration are presented in Figure 2-1 and it is shown installed in the Anechoic Free-Jet Facility in Figure 2-2. The nozzle was designed, fabricated and tested within Contract DOT-OS-30034, Reference 2-1, as a coannular coplanar nozzle system of $A^0/A^1 = 2.0$. The nozzle external flow lines were designed to be compatible with free-jet operation, and contoured to eliminate any flow separation prior to the nozzle exit plane. Within Contracts NAS3-20619 and NAS3-21608, the outer nozzle of the dual flow system was utilized as a single flow convergent nozzle, per Figure 2-1; the inner conic plug being added to cap off the inner flow stream. (See References 2-2 and 2-3 for previous data.) The outer surface of this cap plug was designed to aid in flow acceleration along the plug surface and eliminate the possibility of flow separation until the very tip of the plug is reached. The nozzle internal flow passage near the 5.094" dia. exit plane ($A_8 = 20.38 \text{ in}^2$) has a mild convergence angle of 5.3 for a distance of 1.7 throat diameters upstream of the exit plane. The nozzle has a thin trailing lip of thickness equivalent to 1% of the throat diameter. Installed within the 48" dia. free-jet nozzle, it sets a system area ratio of approximately 89 (area free-jet nozzle/area primary nozzle). A detailed manufacturing drawing of the basic conical nozzle (see Table 2-1) is included in Appendix VI as Figure VI-1.

2.2 MODEL 2: CIRCULAR CONVERGENT-DIVERGENT NOZZLE

The circular C-D nozzle is shown schematically in Figure 2-3. Its throat diameter of 5.1 inch closely matches that of Model 1, the conical convergent nozzle and, therefore, also has a free jet system area ratio of approximately 89. The exit plane diameter of 5.395 inch, at a distance of 5.525 inch from the throat plane, sets the area ratio, $A_{\text{exit}}/A_{\text{throat}}$, at 1.119. The objective of the aerodynamic design for the C-D flowpath (design methodology documented in Reference 2-4) was to obtain isentropic, uniform, and parallel flow at the nozzle exit for the design Mach No. of 1.4; thereby pre-empting, to a large degree, any shock cell induced noise.

The C-D nozzle is shown uninstalled in Figure 2-4a and installed within the Anechoic Free-Jet Facility in Figure 2-4b. Nozzle internal flowpath static pressure taps were applied per Figures 2-5 and 2-6. The internal flowpath

pressure distributions were measured as an aid in diagnosing sensitivity of shock-free operation around the basic design point. Detailed manufacturing drawings and individual part photos (see Table 2-1) are included in Appendix VI as Figures VI-2 through VI-5.

2.3 MODEL 3: BASELINE CONTOURED CONVERGENT ANNULAR PLUG NOZZLE

The contoured convergent annular plug nozzle (non-mechanically suppressed) is shown schematically in Figure 2-7. Basic design parameters are:

- $A_8 = 25.27 \text{ in}^2$
- $D_{8eq} = 5.67 \text{ in}$
- $R_{r8} = .854$
- Throat Plane on 15° Angle
- 15° plug angle

The majority of hardware items were designed and fabricated within Contract NAS3-22137 "Free Jet Feasibility Study of a Thermal Acoustic Shield Concept for AST/VCE Application" which is documented within Reference 2-5. Within this program the contoured convergent annular sleeve, Figure 2-8 (Part JNT030981-1 P01), was designed and fabricated.

Detailed manufacturing drawings and individual part photos (see Table 2-1) are included in Appendix VI, Figures VI-6 through VI-21.

2.4 MODEL 3 WITH TABS: BASELINE CONTOURED CONVERGENT ANNULAR PLUG NOZZLE WITH SHOCK SCREECH TABS

This model utilized the same hardware items as Model 3 (Reference Figures 2-7, 2-8 and Appendix VI, Figures VI-6 through VI-21), however, 8 shock screech tabs were applied to the annular sleeve, part JNT 030981-1 P01, at the exit plane lip. The tabs were configured as shown in Figure 2-9. The design was initiated and scaled from Reference 2-6. The tabs were equally spaced around the annular sleeve utilizing nichrome straps. Photos of the application are per Figures 2-10 and 2-11.

2.5 MODEL 4: CONVERGENT-DIVERGENT ANNULAR PLUG NOZZLE

The C-D annular plug nozzle (non-mechanically suppressed) is shown schematically in Figure 2-12. Figure 2-13 shows the model installed within the Anechoic Free Jet Facility. Individual configuration items are the same as those of Model 3, Figure 2-7, with the exception of Item 8, the C-D annular sleeve. This hardware was designed and fabricated under Contract NAS3-22137 (Reference 2-5). However, within that program it was tested with a 180° thermal acoustic shield. The nozzle system, with a free stream closure, Item 14, replacing the 180° shield, was utilized within this program for shock noise evaluation. A detailed manufacturing drawing and an individual photo of Item B, the C-D annular sleeve, are included in Appendix VI as Figures VI-22 and VI-23. Other items are included in Appendix VI, Figures VI-6 through VI-20.

Design parameters for the $M = 1.4$ selected case are:

- $A_{th} = 25.3 \text{ in}^2$ • $P_T/P_S = 3.120$
- $A_e = 28.3 \text{ in}^2$ • $T_T = 1760^\circ \text{ R}$
- $A_e/A_{th} = 1.119$ • $T_S = 1309^\circ \text{ R}$
- $(R_r)_{th} = 0.854$ • $V_j = 2439 \text{ ft/sec}$
- $(R_r)_e = 0.791$ • $\gamma = 1.351$
- $M = 1.4$

The internal flowpath of Model 4 is identical to that of Model 3 up to the throat plane. The throat plane for the C-D nozzle is at the tangency point of 15° plug angle to the crown radius. The supersonic flow is expanded to the appropriate area ratio (i.e., exit plane area/throat plane area) of 1.119 as calculated by one-dimensional isentropic formula for the design Mach number of 1.4.

To aid in evaluating the sensitivity of shock free operation around the design point, static pressure taps were applied to the plug surface and divergent flowpath surface. See Figures 2-14 and 2-15.

Details of the instrumentation application are included as manufacturing drawings in Appendix VI, Figures VI-24 through VI-26, and as individual part photos in Figures VI-9, VI-11, and VI-23 for part Items 4, 7 and 8, respectively.

2.6 MODEL 5: 20 CHUTE ANNULAR PLUG SUPPRESSOR, CONVERGENT FLOW SEGMENT TERMINATIONS

The annular plug suppressor system with convergent flow element terminations, Figures 2-16 and 2-17, utilizes the 20-chute mechanical suppressor which was developed and fabricated under Contract NAS3-21608, "Free Jet Investigation of Mechanically Suppressed, High Radius Ratio Coannular Plug Model Nozzles", Reference 2-3. Within that program it was tested as a dual-flow system with an annular convergent inner flowpath. This nozzle is a scaled model of the YJ101 Test-Bed Engine suppressor configuration scheduled for evaluation on the YJ101 Test-Bed Engine under Contract NAS3-20582. For use within this program as a single flow nozzle, only the basic suppressor items and mounting hardware were needed from Contract NAS3-21608. The plug closure 4013266-525 P06 was utilized from Contract NAS3-22137 (Reference 2-5) and new spacer rings, JNT040681 P04 and P05 were designed and manufactured. Further details of these hardware items are included per Appendix VI, Figures VI-27 and VI-30 through VI-32 and in Reference 2-3.

Specifics of the nozzle system are:

- Number of suppressor elements	20
- Elemental Planform Shape	Radial
- Suppressor Area Ratio	1.75
- Suppressor Radius Ratio	0.764
- Angle Subtended by Each Chute, θ_{chute} , degrees	7.714
- Angle Subtended by Each Flow Element, θ_{flow} , degrees	10.286
- Chute Depth-to-Width Ratio	1.0
- Chute Entrance Design Mach Number	0.7
- Throat Plane Area, in. ² (Design)	20.358
- Equivalent Throat Diameter, in.	5.091

2.7 MODEL 6: 20 CHUTE ANNULAR PLUG SUPPRESSOR, CONVERGENT-DIVERGENT FLOW ELEMENT TERMINATIONS

The annular plug suppressor system with convergent-divergent flow element terminations is schematically shown in Figure 2-18 with photos presented in Figures 2-19 and 2-20, uninstalled and installed within the Anechoic Free Jet Facility, respectively. Design methodology for the C-D elemental flowpaths is documented in Reference 2-4, the Model Design Report for this contract. Specific design values are summarized as follows:

-	Mach No.	1.425		
-	P_T/P_O	3.238		
-	$T_T, ^\circ R$	1730		
-	$T_S, ^\circ R$	1271		
-	γ	1.354		
-	V_j , ft/sec	2448		
-	Number of Suppressor Elements	20		
-	Elemental Planform Shape	Radial		
-	$A_{\text{flow at exit}}/A_{\text{flow at throat}}$	1.133		
			At Throat	At Exit Plane
•	Suppressor Area Ratio		1.752	1.56
•	Suppressor Radius Ratio		.764	.743
•	Angle Subtended by each chute, θ chute, degrees		7.72	6.44
•	Angle Subtended by each flow element, θ flow, degrees		10.28	11.56
•	Flow Area, in. ²		20.227	22.924
•	Equivalent Flow Dia, in.		5.075	5.403
•	Chute Blockage Area, in. ²		15.20	12.77

Further details of the hardware items are included in Appendix VI,

Figures VI-28 through VI-33.

Static pressure instrumentation has been applied to the C-D chutes of this configuration as follows:

- (24) P_s taps within the C-D flow passage to aid in determining the shock-free operating point.
- (15) P_s taps in the base region of the C-D chutes for determining base pressures. These pressures, when integrated over the base area, will allow estimation of base drag impact on the nozzles' aerodynamic performance in terms of thrust coefficient.

Drawings for the C-D flow passage instrumentation and base pressure instrumentation are shown in Figures VI-34 and VI-35 of Appendix VI, respectively. Photographs in Figures 2-21, 2-22 and 2-23 show details of the instrumentation application. Figure 2-21 is an overview of the nozzle showing representative base pressure taps and the general tubing routing over the nozzle outer skin. Figure 2-22 shows details of the C-D flow passage pressure tap locations at mid-span on the chute and on the divergent flap of the outer shroud. Figure 2-23 also shows the pressure tap locations on the divergent flap of the outer shroud plus the chute hub taps in the throat plane and on the divergent chute flap.

Table 2-1. Summarization of Scale Model Nozzles with Applicable Text and Appendix Figures.

Configuration No.	Description	Figure Numbers Within Text			Figure Numbers Within Appendix VI		
		Geom. Schem.	Photos	Instr. Schem.	Instr. Photos	Photos	Instr. Details
1	Baseline Conical-Convergent Nozzle	2-1	2-2	N/A	N/A	-	N/A
2	Circular Convergent-Divergent Nozzle	2-3	2-4	2-5	2-6	VI-2 & -3	VI-3
3	Baseline Contoured-Convergent Annular Plug Nozzle	2-7	2-8	N/A	N/A	VI-6,-8,-10,-12,-14,-17,-19, & -21	N/A
3	Baseline Contoured-Convergent Annular Plug Nozzle with Shock Screech Tabs	2-9	2-10 & 2-11	N/A	N/A	Same as 3 & Ref. Fig. 2-9	N/A
4	Convergent-Divergent Annular Plug Nozzle	2-12	2-13	2-14	2-15	VI-6,-8,-10,-12,-14,-17,-19, & -22	VI-7,-9,-11,-13,-15,-16,-18, & -20, & -23
5	20-Chute Annular Plug Suppressor; Convergent Flow Element Termination	2-16	2-17	N/A	N/A	VI-28,-30,&-31	VI-32
6	20-Chute Annular Plug Suppressor; Convergent-Divergent Flow Element Termination	2-18	2-19 & 2-20	-	2-21 & 2-23	VI-27,-29,-30, & -31	VI-33
							VI-34 & 2-21 & 2-23

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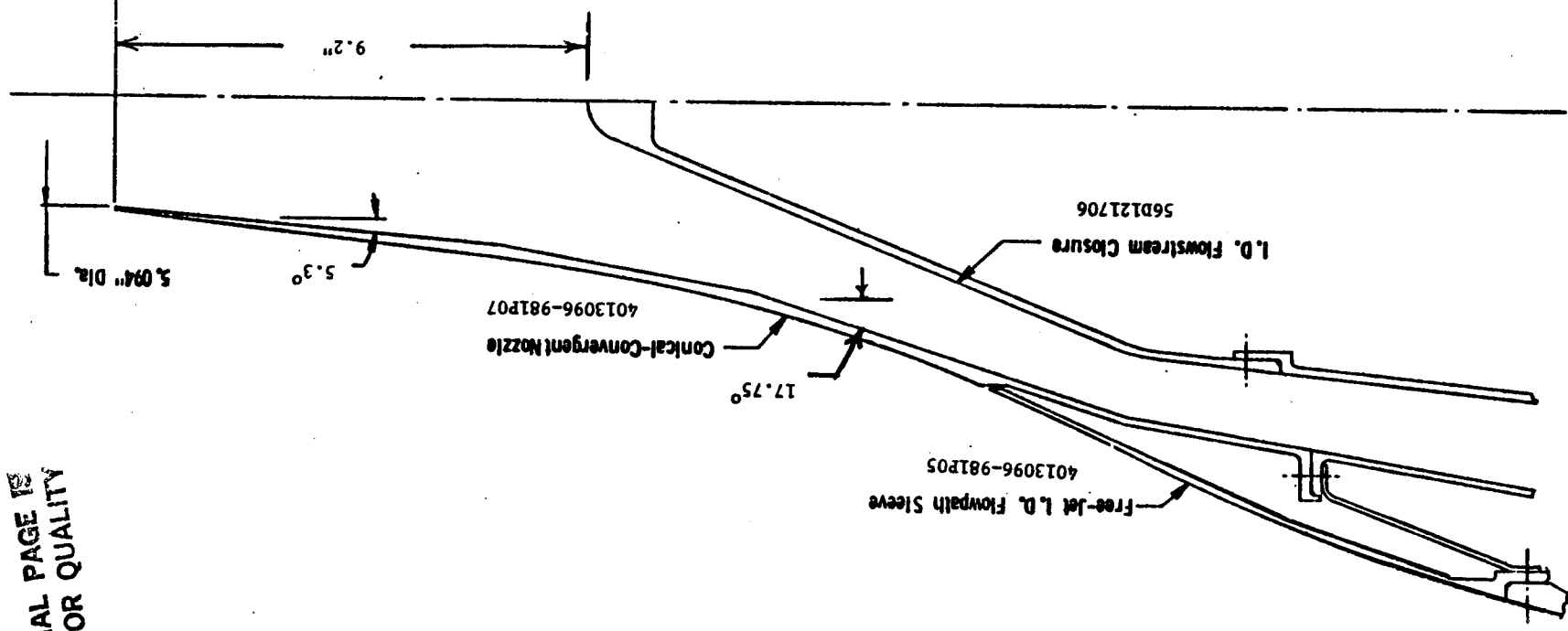


Figure 2-1. Model 1; Baseline Conical-Convergent Nozzle

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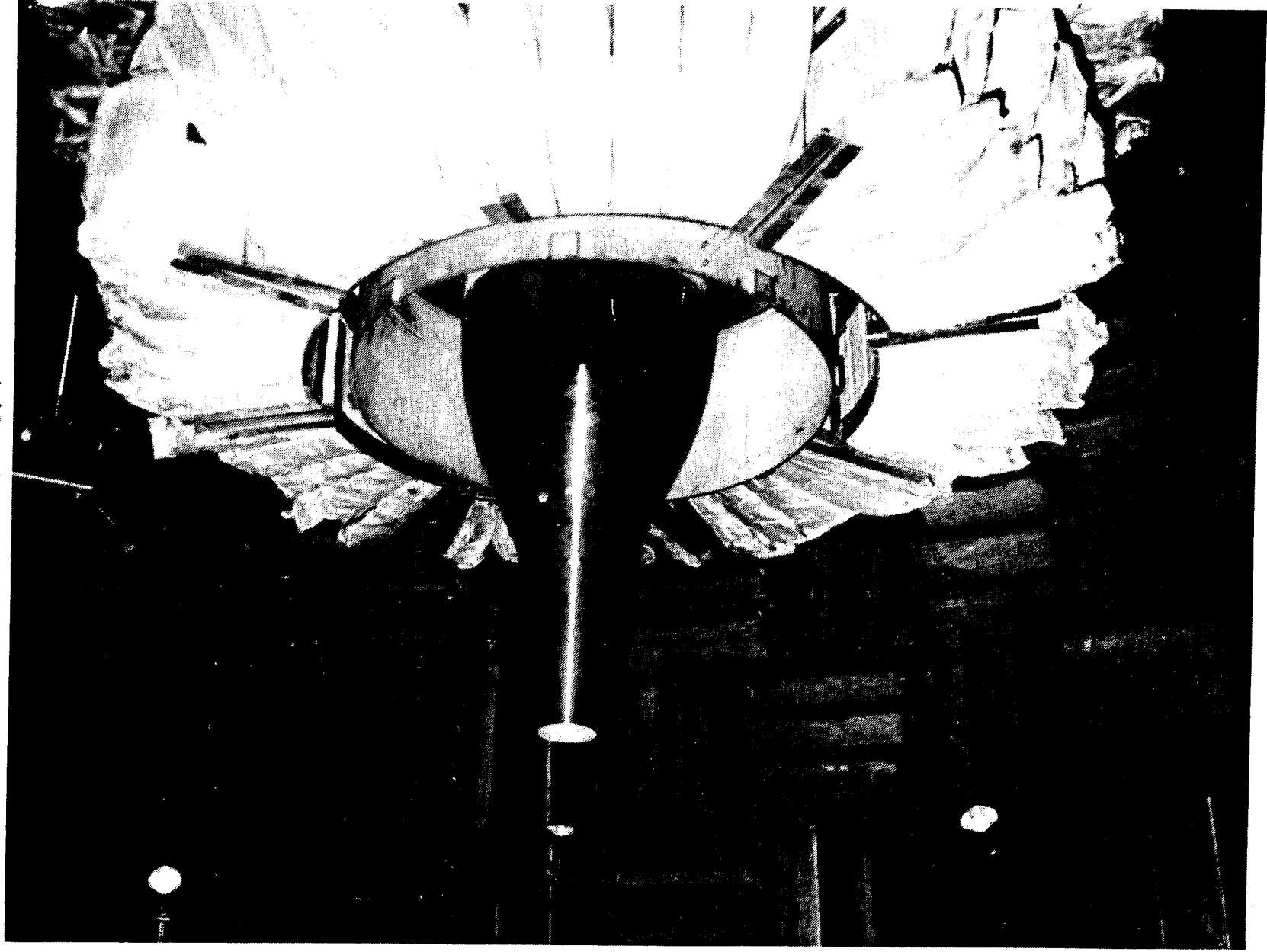


Figure 2-2. Model 1; Baseline Circular-Convergent Nozzle Installed in the Anechoic Free-Jet Facility.

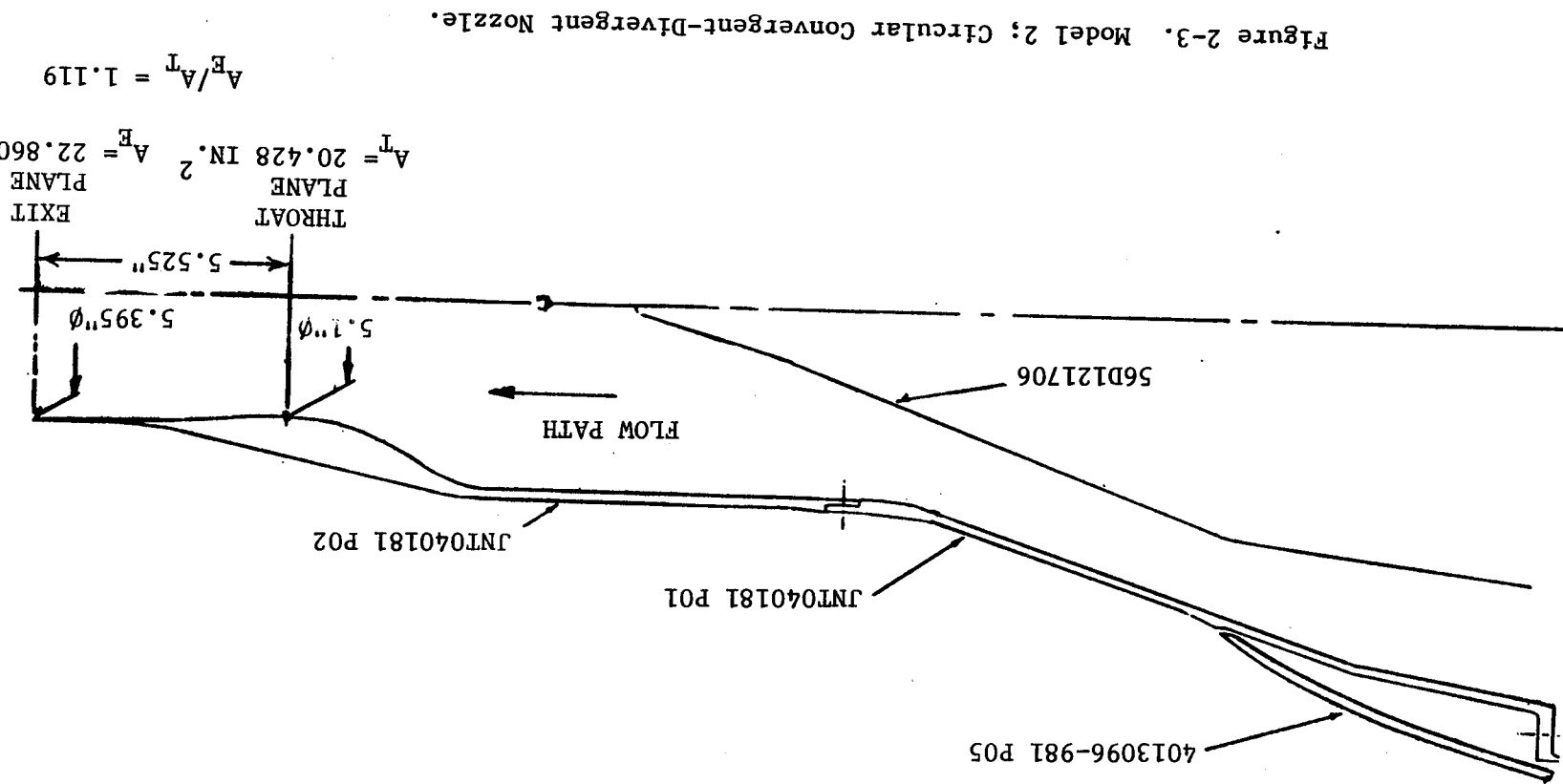


Figure 2-3. Model 2: Circular Convergent-Divergent Nozzle.

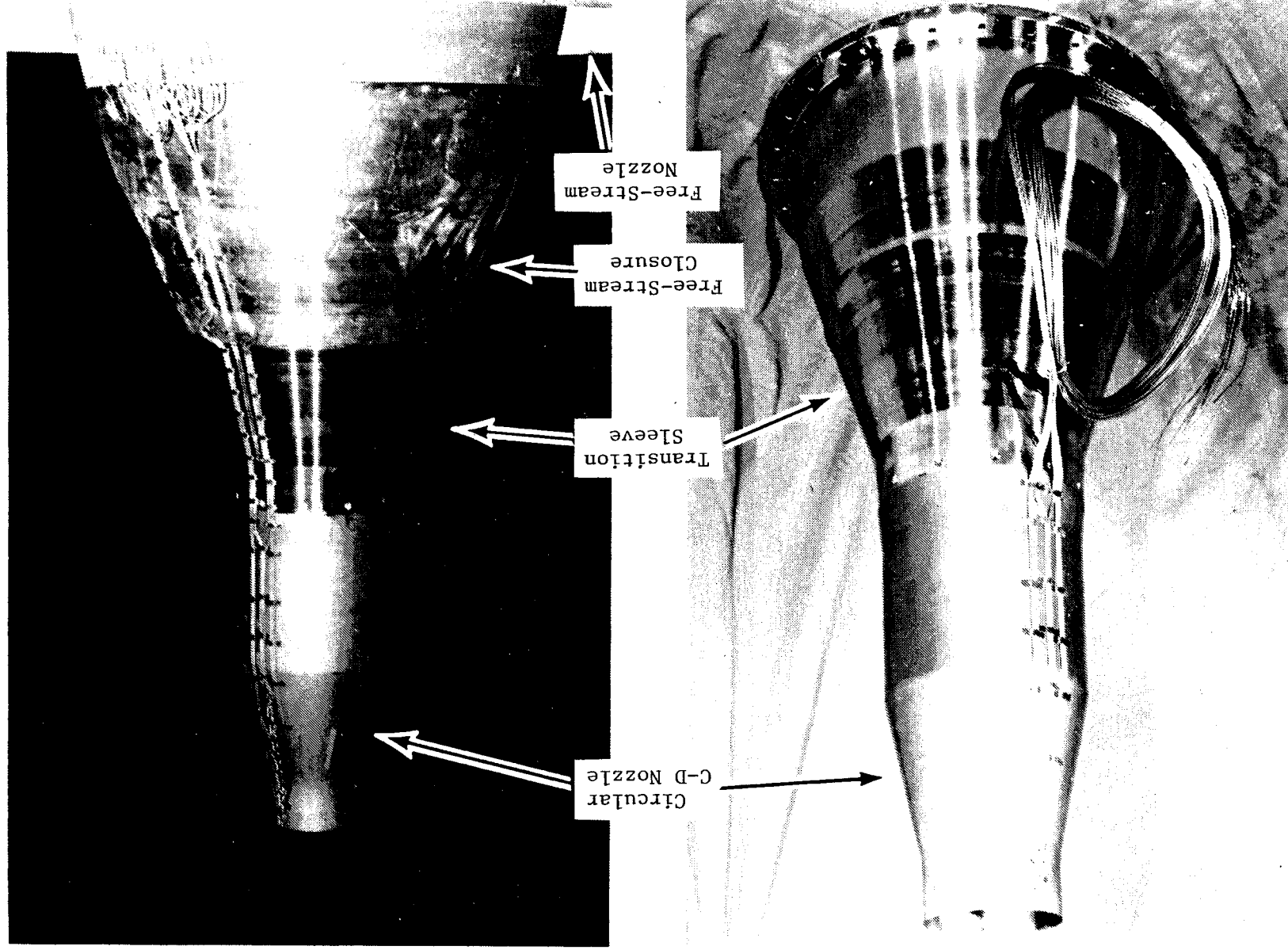
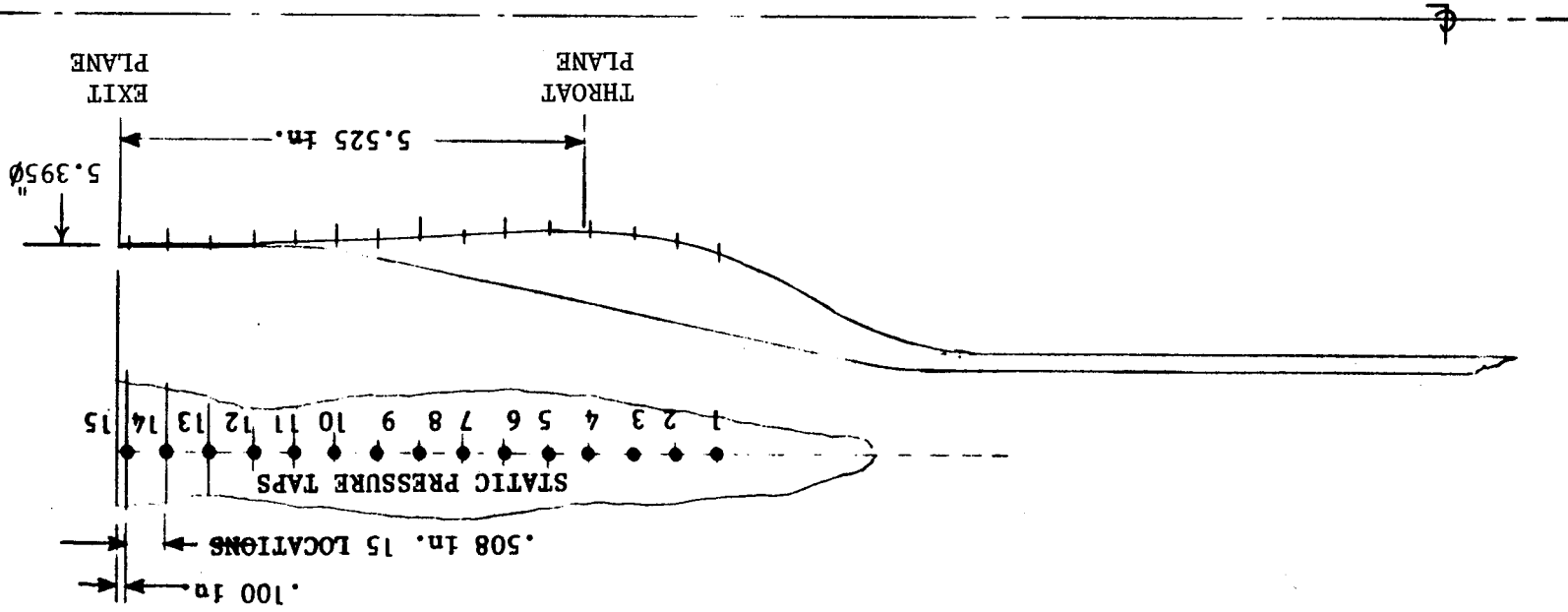


Figure 2-4. Model 2: Convergent-Divergent Circular Nozzle, Uninstalled and Installed.

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TYPICAL INSTALLATION
SENSING PORT PERPENDICULAR
TO FLOW SURFACE

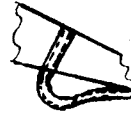


Figure 2-5. Application of Static Pressure Instrumentation to Internal
Flowpath of Model 2.

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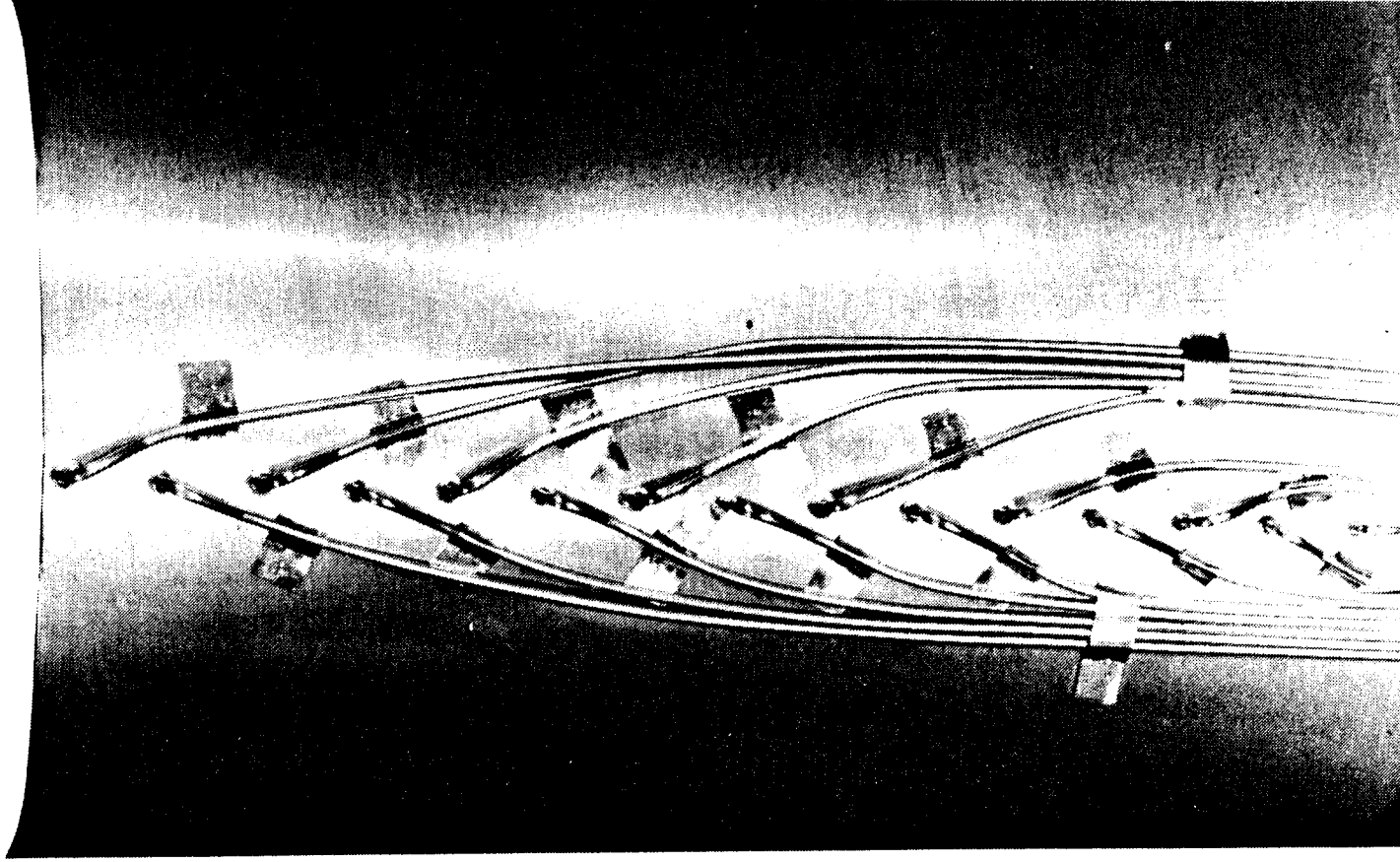


Figure 2-6. Flowpath Static Pressure Sensing Tubing as Applied to Model 2's
Circular C-D Nozzle (JNT040181P02).

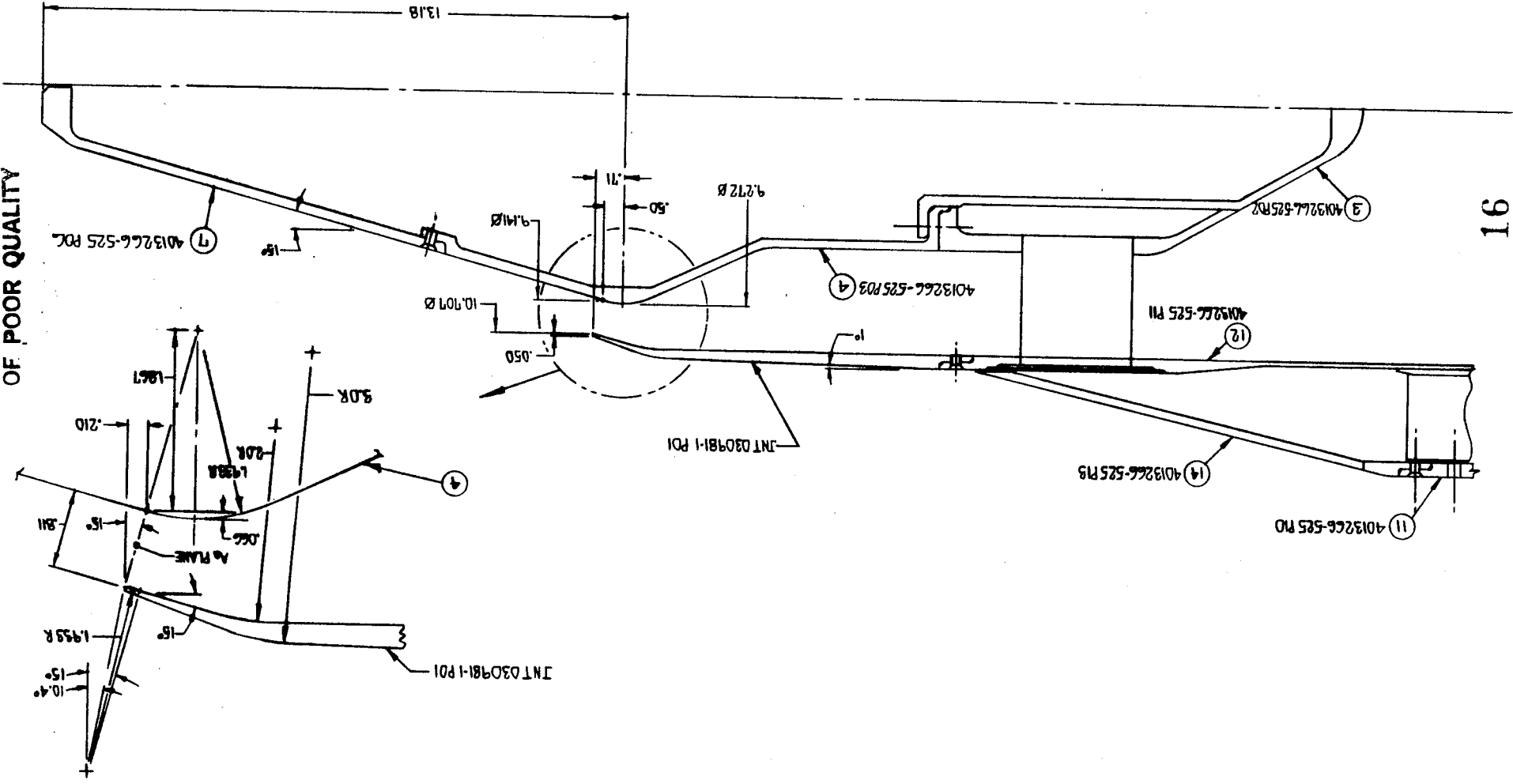
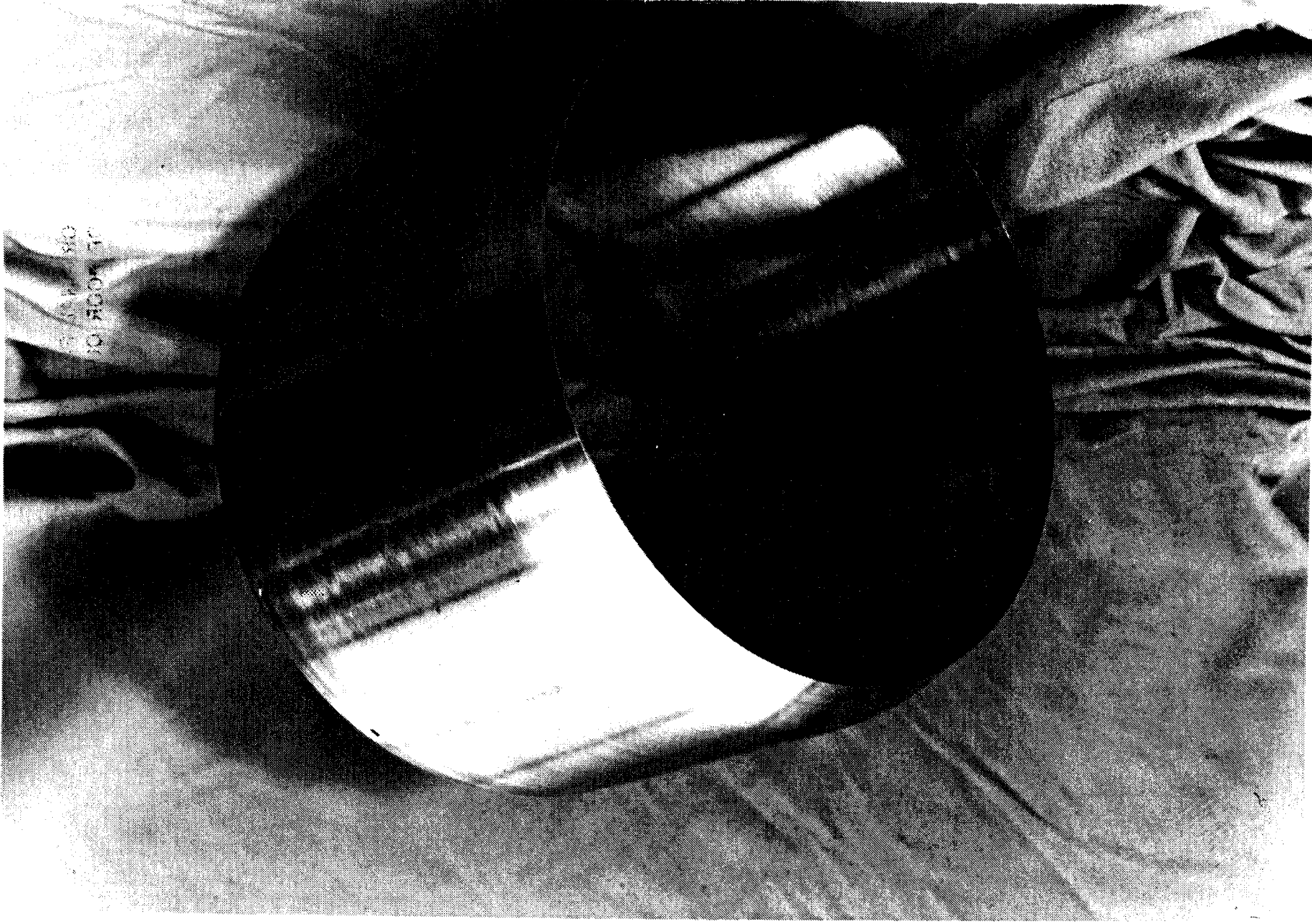


Figure 2-7. Schematic of Model 3; Baseline Contoured Convergent Annular Plug Nozzle.

Figure 2-8. Photo of Contoured Convergent Annular Sleeve for Model 3 (JNT030981-1P01)



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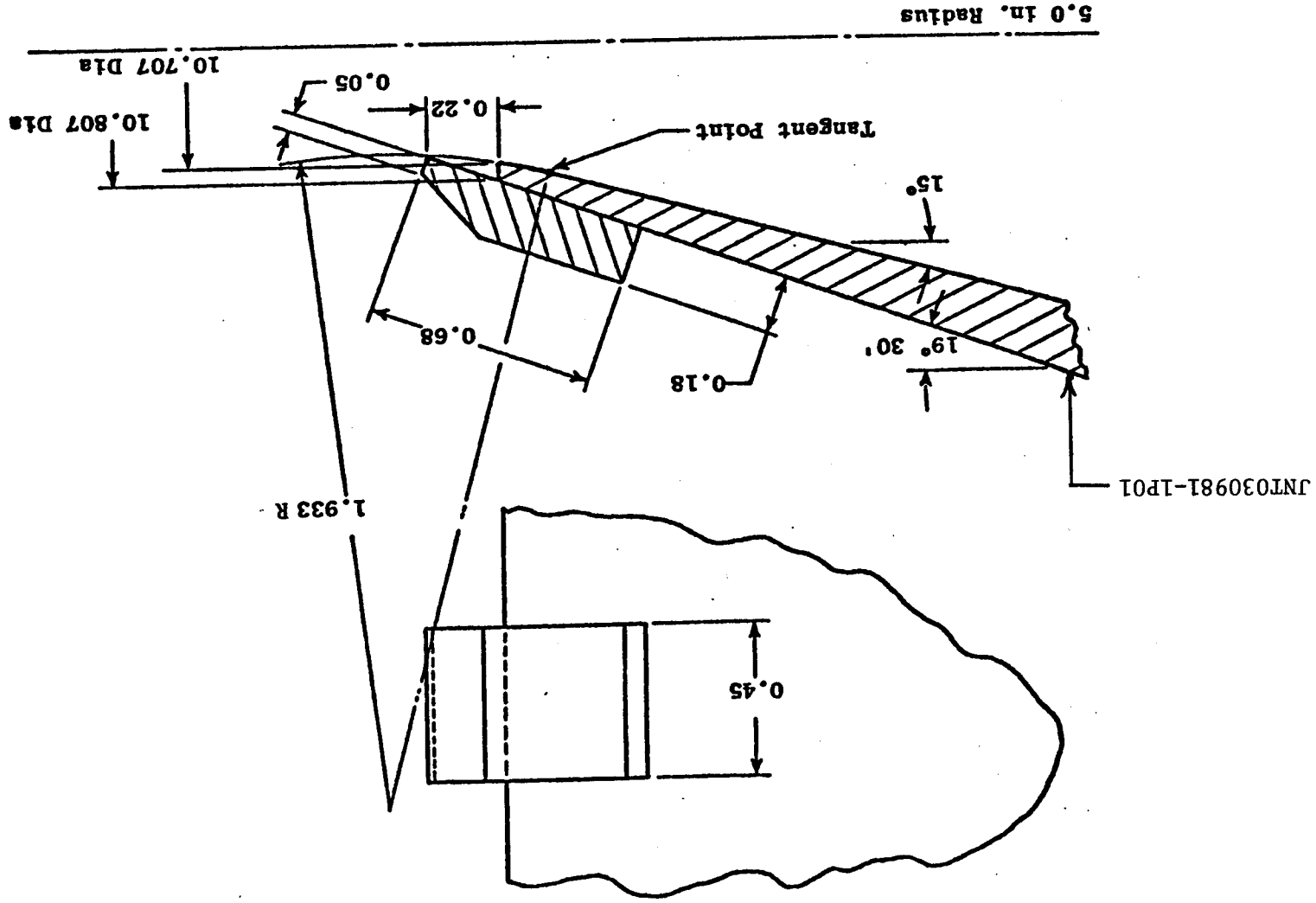


Figure 2.9. Schematic of Screech Tab Application to Model 3, Contoured Convergent Annular Plug Nozzle.

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Figure 2-10. Photo of Screech Tab Application to Model 3, Contoured Convergent Annular Plug Nozzle.

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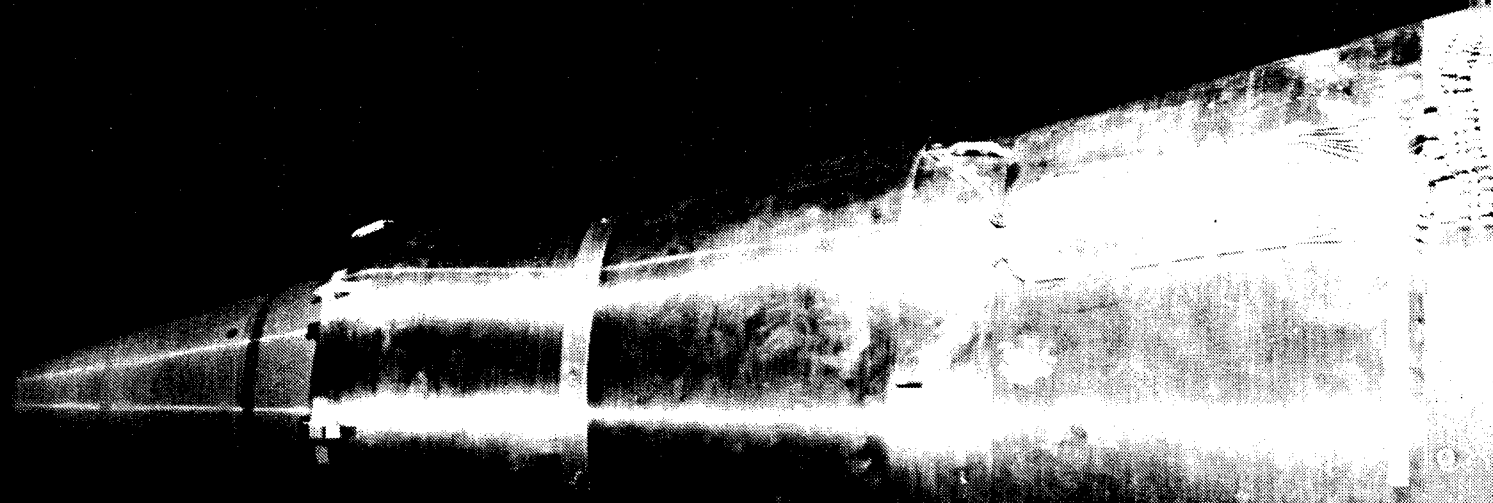
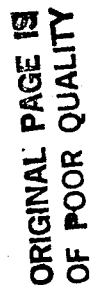


Figure 2-11. Photo of Screech Tab Application to Model 3; As Installed Within Anechoic Free-Jet Facility.

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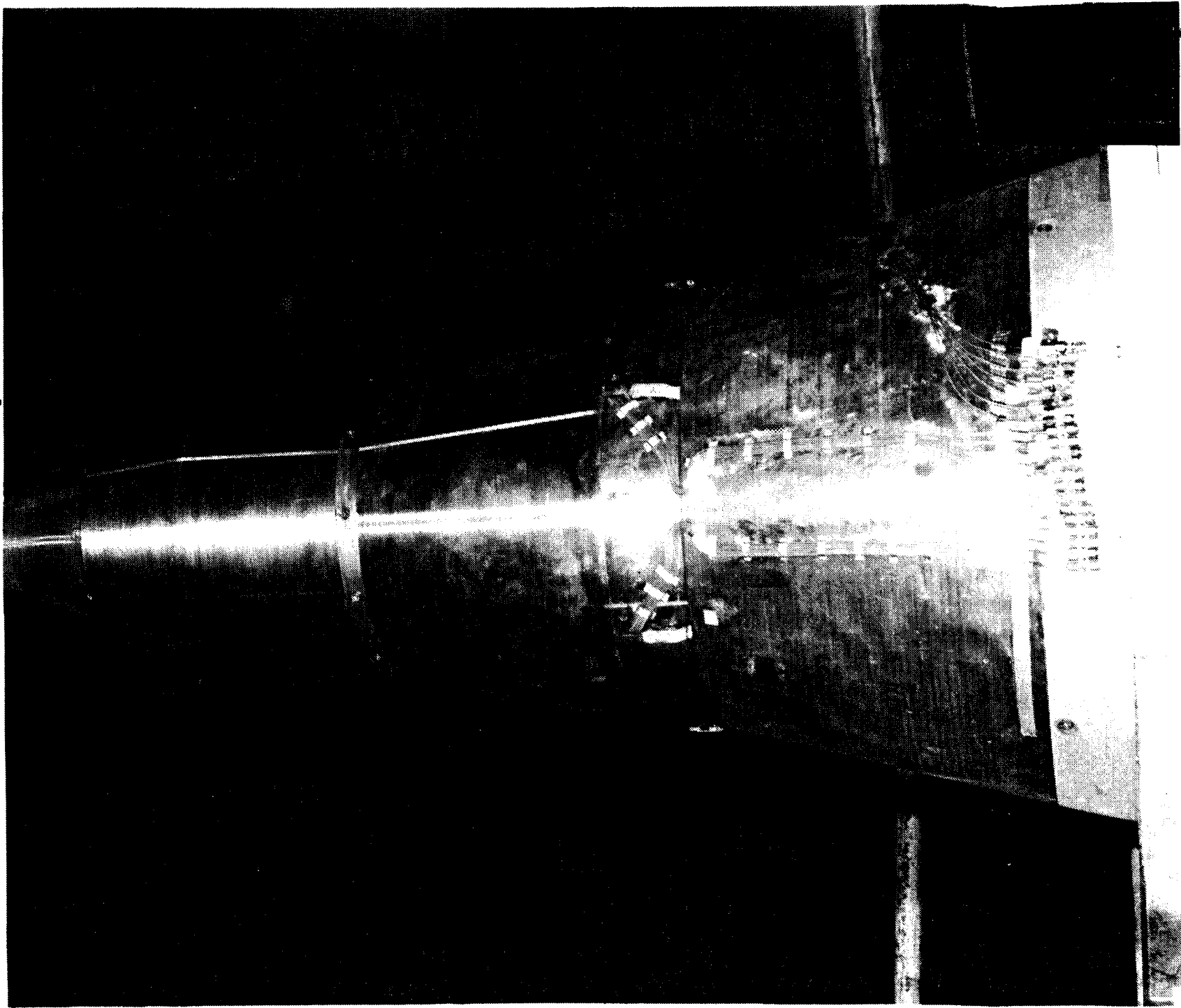
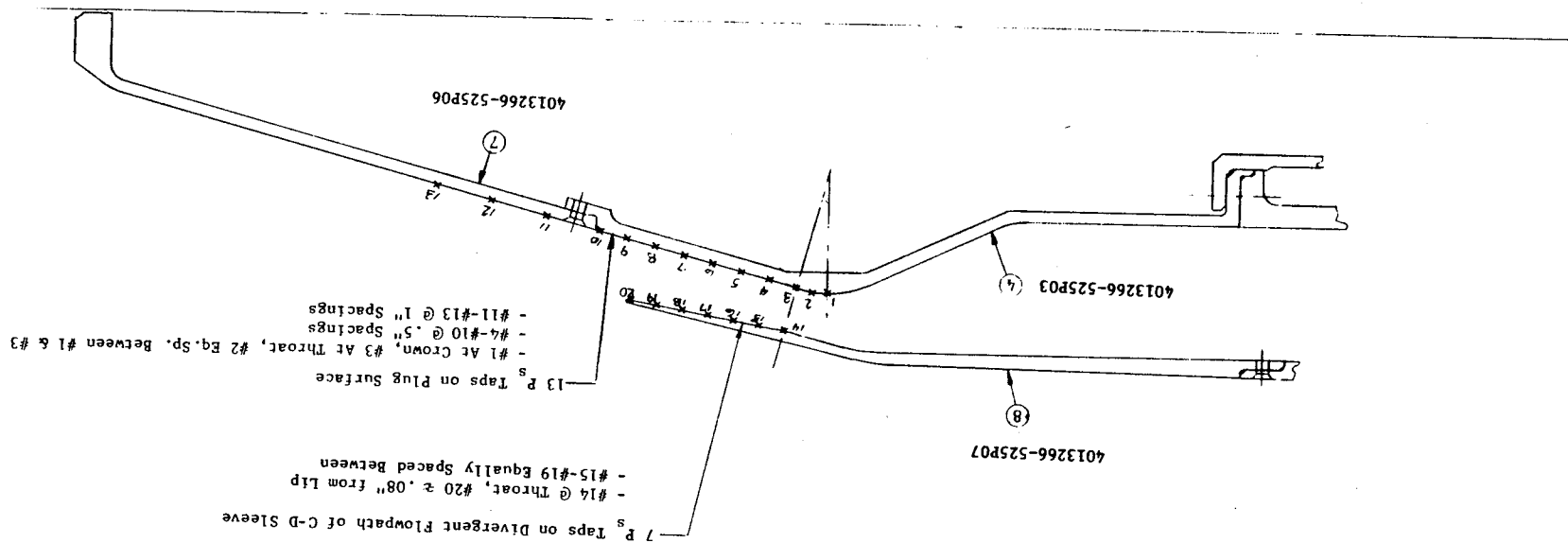


Figure 2-13. Photo of Model 4; Convergent-Divergent Annular Plug Nozzle, As Installed Within the Anechoic Free-Jet Facility.

Figure 2-14. Schematic of Static Pressure Instrumentation Application to Plug Surface and Divergent Flowpath Surface of Model 4; C-D Annular Plug Nozzle.



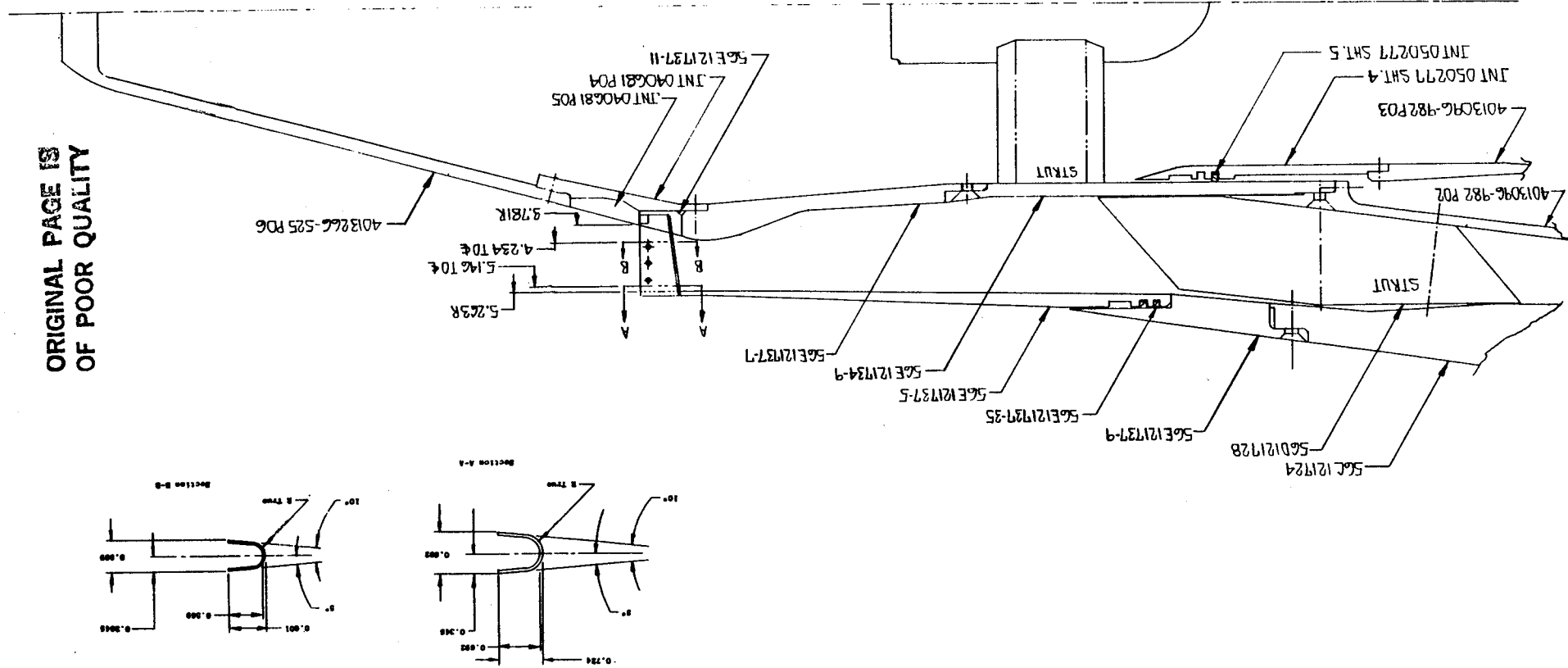
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Figure 2-15. Photo of Static Pressure Instrumentation Application to C-D
Flowpath of Model 4; Convergent-Divergent Annular Plug Nozzle.



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Flow Element Terminations.



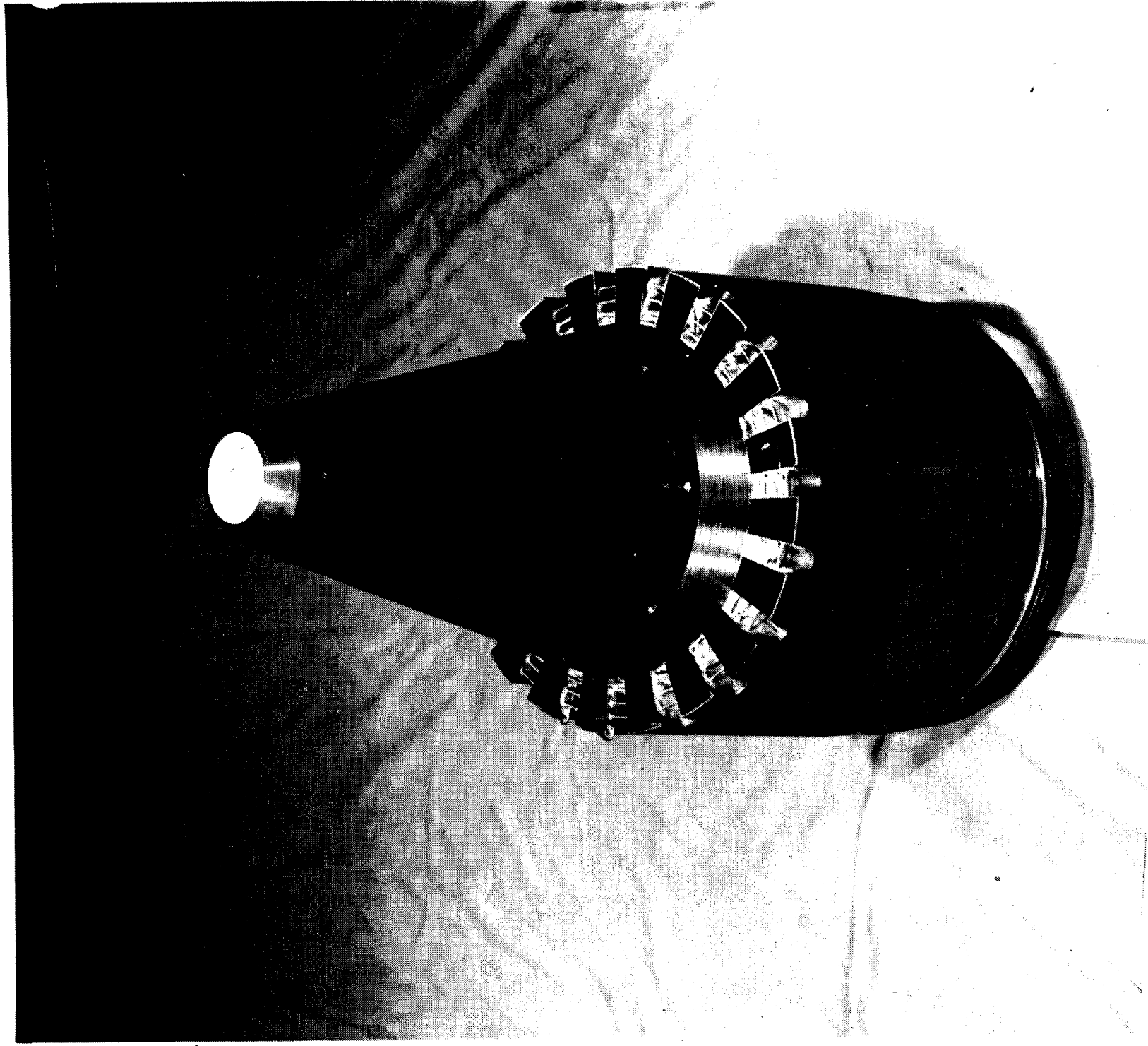


Figure 2-17. Photo of Model 5: 20 Chute Annular Plug Suppressor, Convergent Flow Element Terminations.

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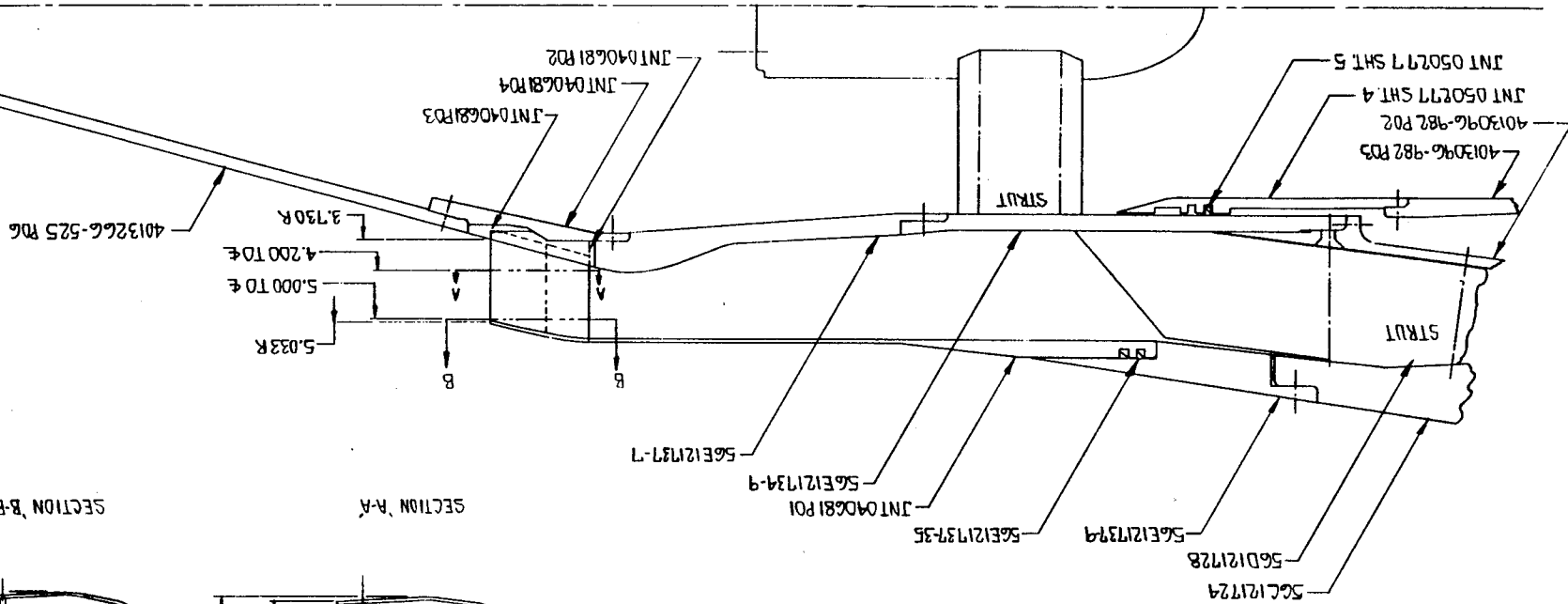
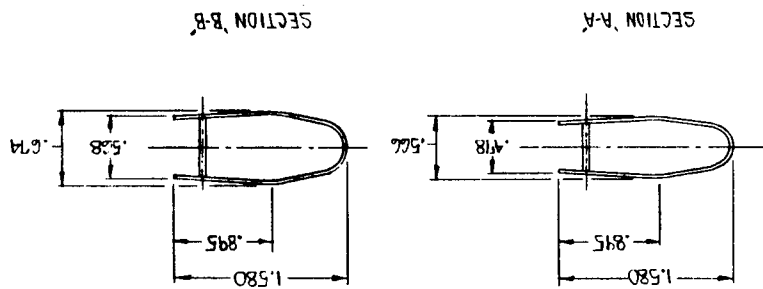


Figure 2-18. Schematic of Model 6; 20 Chute Annular Plug Suppressor, Convergent-Divergent Flow Element Terminations.

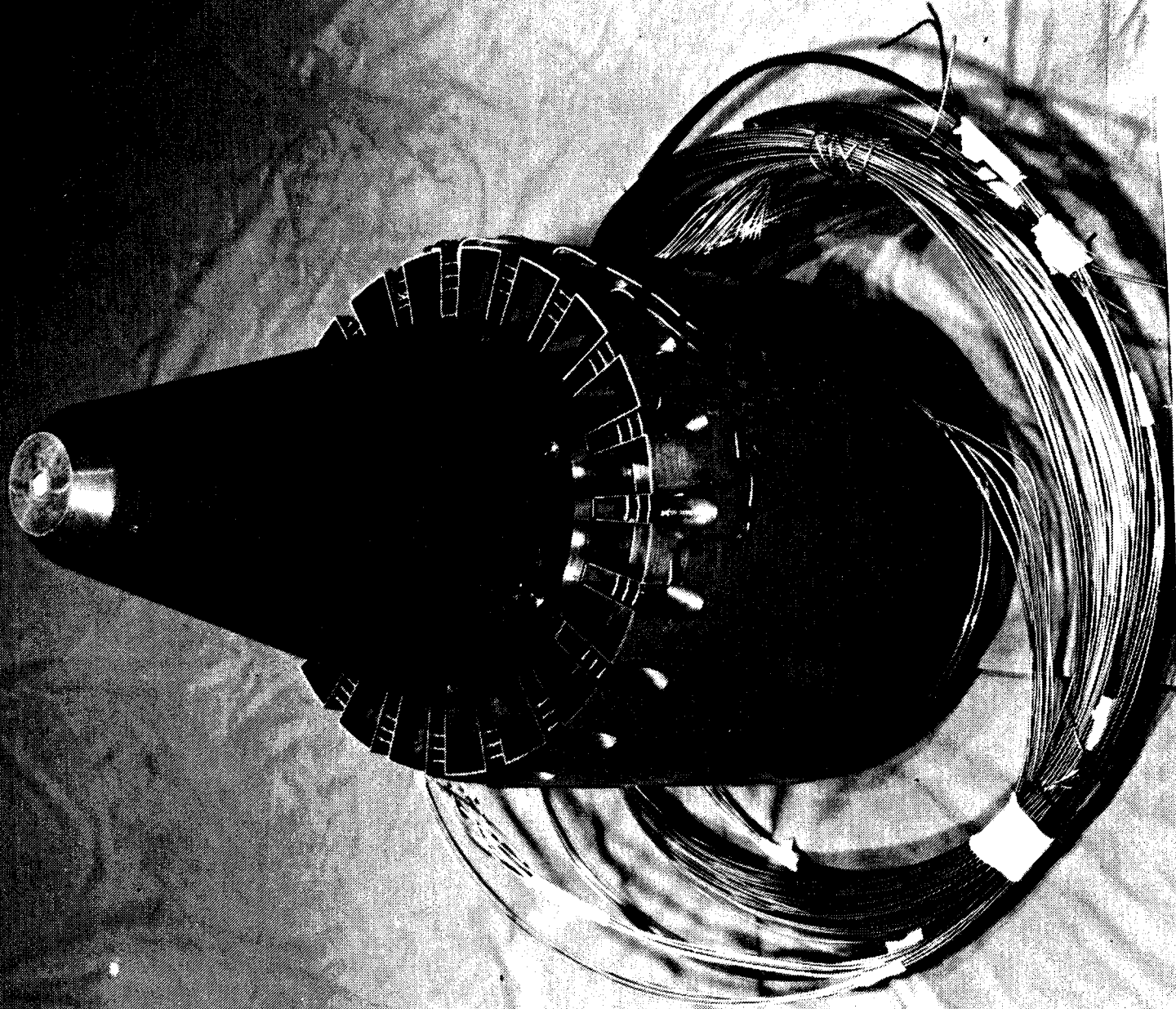


Figure 2-19. Photo of Model 6: 20 Chute Annular Plug Suppressor, Convergent-Divergent Flow Element Terminations, Uninstalled.

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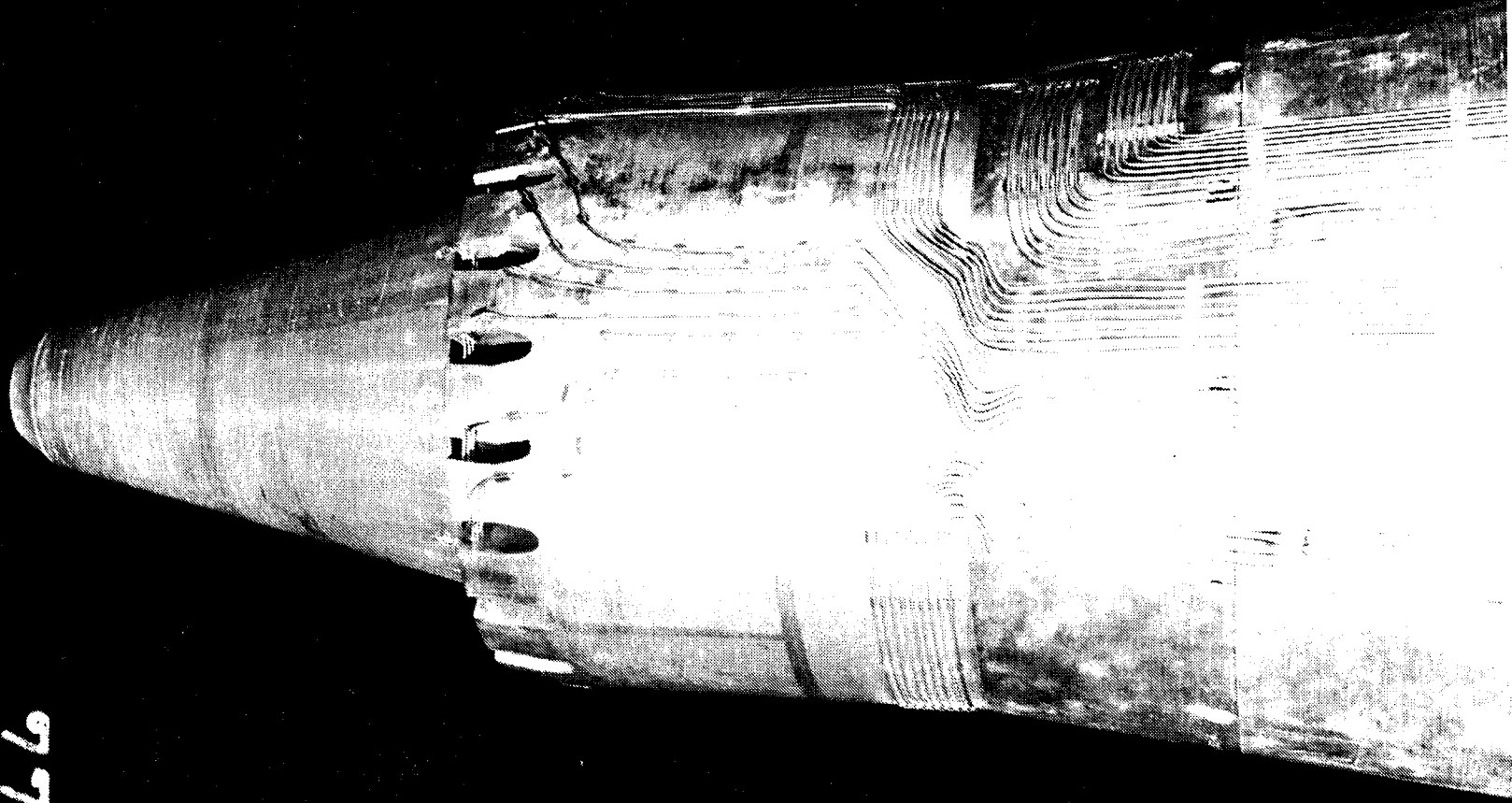


Figure 2-20. Photo of Model 6; 20 Chute Annular Plug Suppressor, Convergent-Divergent Flow Element Terminations, As Installed Within the Anechoic Free-Jet Facility.

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C-D Flow-Path P_s Taps

Base Pressure P_s Taps

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20 CHUTE
C-D
JMT640681601

Figure 2-21. Overview of Model 6, 20 C-D Chute Suppressor, Showing Base Pressure and C-D Flow Path Instrumentation Application.

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Divergent Flap P_s Taps (8 Total)

Chute Mid-Span P_s Taps (8 Total)

Within Divergent Flow-Path (5)

At Throat (1)

Within Convergent Flow-Path (2)

Figure 2-22. C-D Flow Passage Static Pressure Instrumentation Application to 20 C-D Chute Suppressor, Model 6; Chute Mid-Span and Divergent Flap Taps

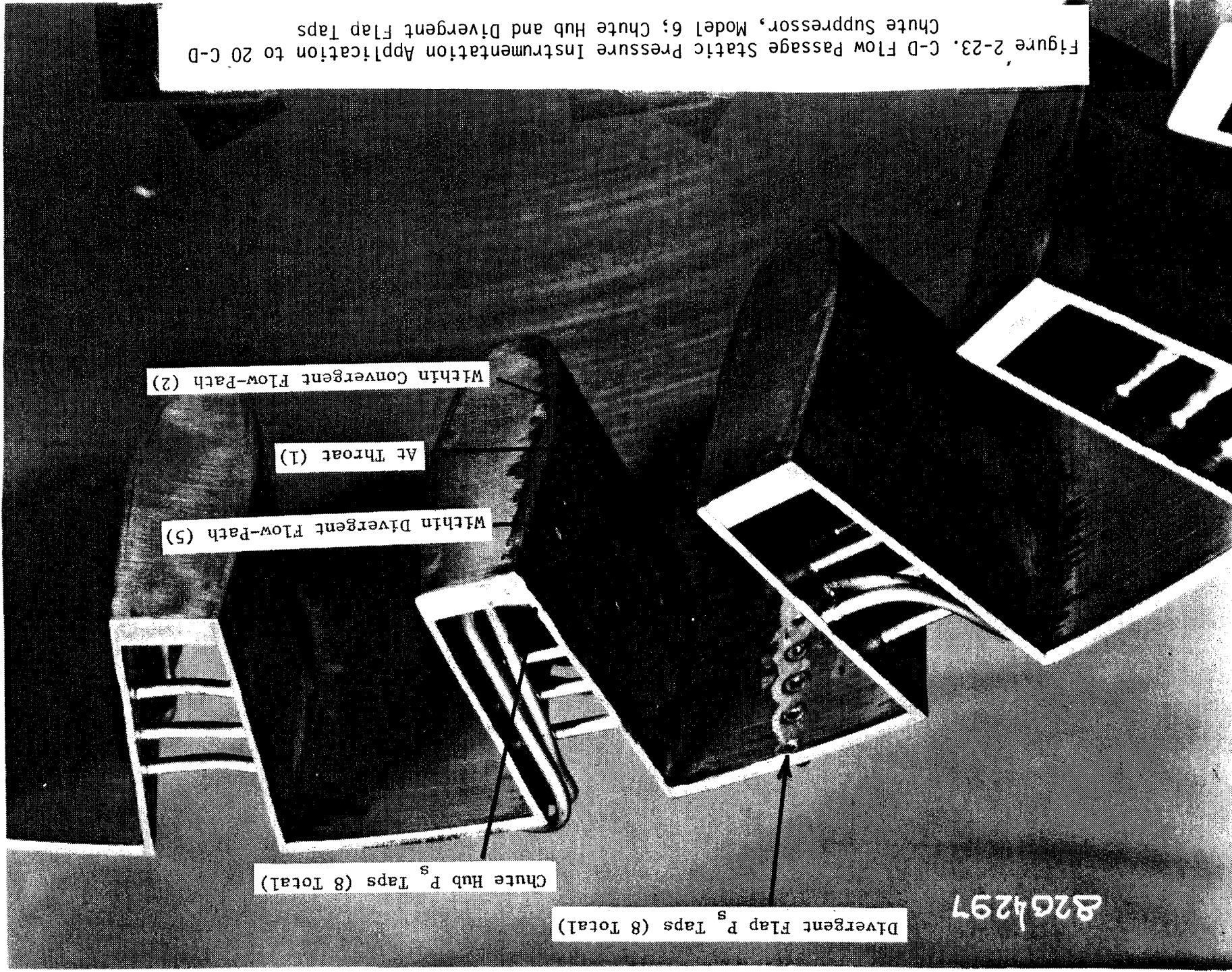


Figure 2-23. C-D Flow Passage Static Pressure Instrumentation Application to 20 C-D Chute Suppressor, Model 6; Chute Hub and Divergent Flap Taps

3.0 TEST POINT DEFINITION

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The aerodynamic flow conditions corresponding to the acoustic test points taken on each of the test configurations are tabulated in this Section. The data are tabulated in both the International System of Units and in English Units.

3.1 DEFINITION OF VARIABLES

The symbols and variables used in test point data lists are defined in Section 8.0, Nomenclature (Volume III). Sample sheets specifying the variables listed in the tables that summarize the aerodynamic flow conditions are presented in Table 3-1. From the known stream velocity and total temperature, other ~~aircraft~~ flow parameters have been calculated by using standard isentropic relations. The ambient pressure and temperature, along with the relative humidity in the GE Anechoic Facility at the time of the test, are presented in these tables.

In addition, the measured far-field PNL data extrapolated to a 731.5 m (2400 ft) sideline and scaled to an AST product size of 0.903 m^2 (1400 in.²) also are presented in the tables that are in English Units. The selected data correspond to microphone locations of $\theta_1 = 50^\circ, 60^\circ, 70^\circ, 90^\circ, 120^\circ, 130^\circ$, and 140° .

The normalization factor (NF) found in these tables can be employed to normalize the measured perceived noise level (PNL) to a reference thrust as follows:

$$\text{PNLN} = \text{Normalized PNL} = \text{PNL} + \text{NF}$$

$$\text{where NF is given by} \quad -10 \log \left(\frac{F}{F_{\text{ref}}} \right) \left(\frac{\rho}{\rho_{\text{amb}}} \right)^{\omega-1}$$

Where the reference thrust, $F_{ref} = 22,820 \text{ N (5130 lb)}$.

The normalized data are used to determine the dependence of aft angle jet noise on the acoustic Mach number by plotting PNLN against $10 \log (V_j/a_{amb})$.

The aerodynamic flow conditions and the selected PNL data corresponding to the acoustic test points are presented in Subsection 3.2 through 3.7.

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Model Number	Throat Area (Model Size)	AREA (MODEL SIZE = 20.38; FULL SIZE = 1400.00) SQ. IN.	MODEL 5 - MODEL

(English Units)

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27-36 INTERNATIONAL BEANS

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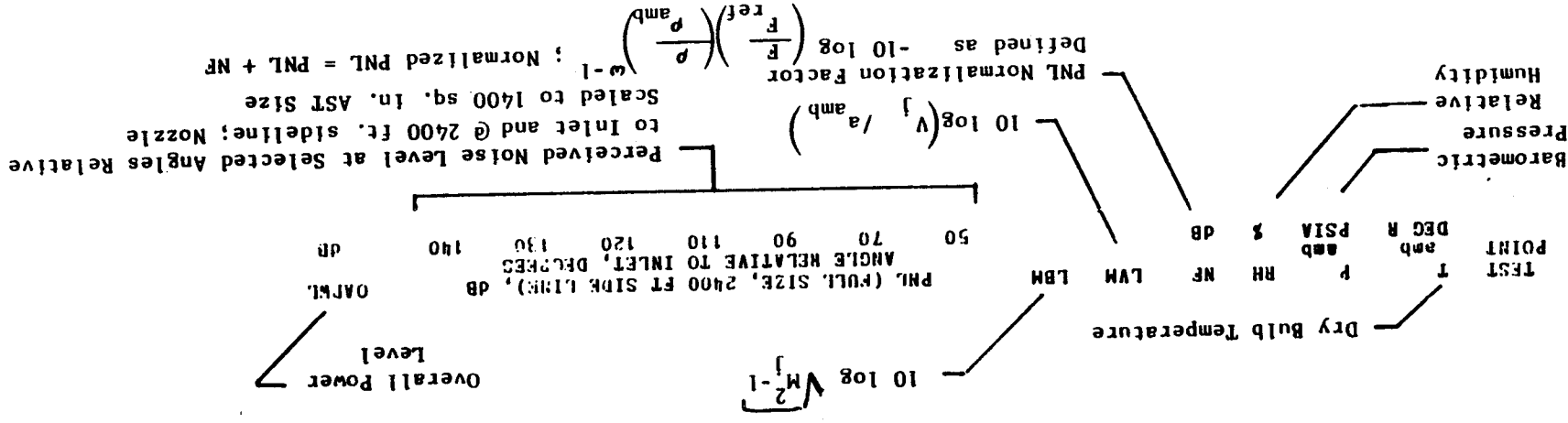


Table 3-2. Description of Aerodynamic Data Sheet.

(International Units)

Model Number
Throat Area (Model Size)
Throat Area of Scaled Nozzle (AST Size)
AREA (MODEL SIZE = 0.0163 ; FULL SIZE = 0.9031) sq.m.

TEST V ac J T T P W F
POINT ac J T T P W F

m/s m/s ° K ° K kg/s N

Outer Stream
Flow Variables
Free Jet Velocity (Simulated Aircraft Velocity)
Test Point Number

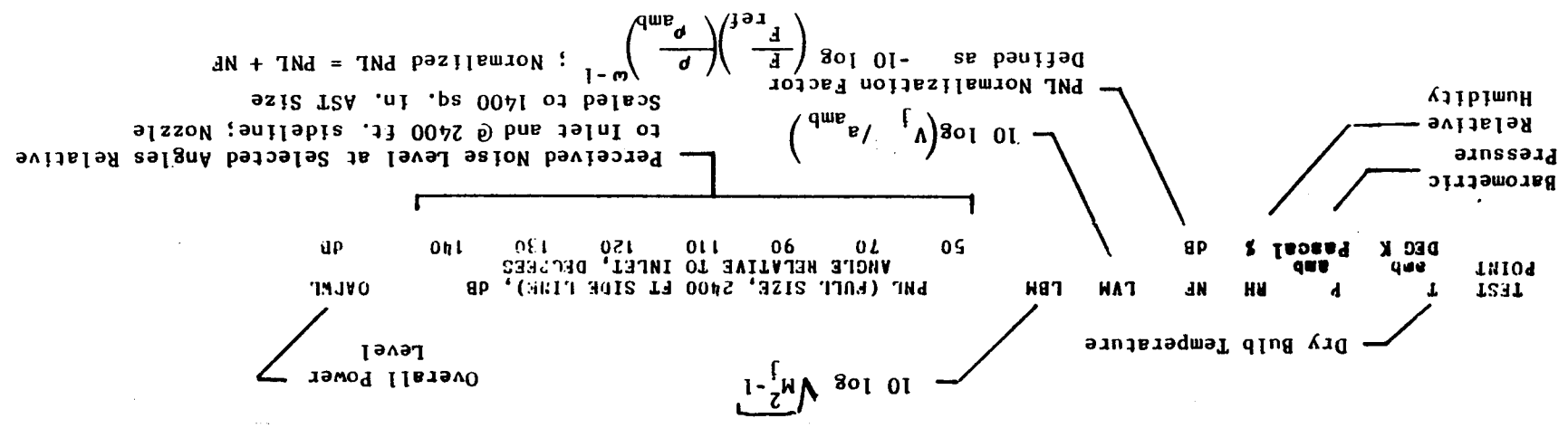


Table 3-1

Description of Aerodynamic Data Sheet (Concluded).

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3.2 Test Matrix of Model 1

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TEST	POINT	V	P	T	V	M	F	FT/SEC	LB/SEC	LB	TEST	POINT	T	P	RH	NF	LVM	LBH	PNL (FULL SIZE, 2400 FT SIDE LINE), DB	ANGLE RELATIVE TO INLET, DEGREES	130	120	140	DB	OAPWL
103	0	2.87	1718	2333	733.1	53164	736.3	53258	55475	57147	103	499.9	14.43	92	-6.0	3.28	-0.60	101.6	101.6	104.8	105.2	111.6	115.3	112.2	185.9
104	400	2.88	1708	2327	736.3	53258	736.3	53258	55475	57147	104	500.0	14.42	92	-6.0	3.27	-0.59	106.7	106.7	104.9	107.9	110.5	112.6	109.8	184.5
105	0	2.96	1708	2354	758.2	55475	758.2	55475	55485	57147	105	500.5	14.43	92	-6.2	3.32	-0.44	102.5	102.5	101.6	105.8	112.8	115.7	112.7	186.6
106	400	2.96	1714	2358	756.9	55485	756.9	55485	55485	57147	106	500.9	14.43	92	-6.2	3.32	-0.43	107.1	107.1	105.8	108.2	111.0	112.7	109.7	184.9
107	0	3.02	1718	2381	772.2	57147	772.2	57147	57147	57147	107	500.6	14.43	92	-6.4	3.37	-0.33	102.5	102.5	101.7	107.2	111.0	113.4	110.4	185.6
108	400	3.03	1711	2378	775.1	57147	775.1	57147	57147	57147	108	500.6	14.42	92	-6.4	3.36	-0.33	109.3	109.3	107.2	108.8	111.5	116.7	114.5	187.5
111	0	3.08	1708	2392	789.3	58672	789.3	58672	58609	59787	111	500.3	14.43	92	-6.5	3.39	-0.23	103.4	103.4	102.1	106.3	112.9	116.7	114.5	187.5
112	400	3.08	1715	2396	787.0	58609	787.0	58609	58609	59787	112	500.6	14.42	92	-6.5	3.39	-0.24	109.6	109.6	108.0	109.8	111.5	113.4	110.2	185.9
113	0	3.12	1707	2403	800.5	59787	800.5	59787	59894	59894	113	500.6	14.43	92	-6.6	3.41	-0.17	103.5	103.5	102.6	106.5	113.7	116.9	113.2	187.5
114	400	3.13	1715	2410	799.7	59894	799.7	59894	59894	59894	114	502.1	14.43	92	-6.6	3.41	-0.16	110.4	110.4	108.3	109.6	111.8	113.9	110.7	186.3
119	0	3.23	1709	2431	826.7	62466	826.7	62466	62466	64982	119	500.7	14.43	92	-6.9	3.46	-0.02	104.6	103.7	103.3	107.3	113.8	116.3	112.8	187.7
120	400	3.23	1707	2452	852.8	64982	852.8	64982	64982	64982	120	502.4	14.43	92	-6.9	3.45	-0.03	110.8	109.0	109.2	109.2	112.2	114.3	111.1	187.0
121	0	3.32	1700	2452	852.8	64982	852.8	64982	64982	64982	121	500.6	14.43	92	-7.1	3.49	0.10	104.8	104.0	107.9	108.8	113.6	117.0	113.1	187.9
122	400	3.32	1710	2459	851.0	65039	851.0	65039	65039	65039	122	502.6	14.43	92	-7.1	3.50	0.10	111.4	109.7	111.5	110.0	112.9	114.9	111.2	187.6

***** S I. UNITS *****

AREA [MODEL SIZE

NOZZLE - MODEL 01

= 0 0131 : FULL SIZE

= 0 9031] sq m.

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TEST	V	ac	J	T	P	M	F
POINT	V	ac	J	T	P	M	F
m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s
103	0.	711.1	954.4	725.6	2.8729	332.5	14780
104	122	709.3	948.9	720.7	2.8768	334.0	14806
105	0.	717.5	948.9	714.9	2.9610	343.9	15422
106	122	718.7	952.2	717.4	2.9616	343.3	15425
107	0.	725.7	954.4	715.3	3.0245	350.3	15887
108	122	724.8	950.6	711.6	3.0307	351.6	15925
111	0.	729.1	948.9	707.1	3.0834	358.0	16311
112	122	730.3	952.8	710.3	3.0815	357.0	16294
113	0.	732.4	948.3	704.1	3.1249	363.1	16621
114	122	734.6	952.8	707.1	3.1297	362.7	16651
119	0.	741.9	949.4	698.2	3.2331	375.4	17408
120	122	741.0	948.3	697.7	3.2268	375.0	17366
121	0.	747.4	944.4	688.9	3.3232	386.8	18065
122	122	749.5	950.0	693.0	3.3247	386.0	18081
TEST	I	amb	P	RH	NF	LVM	LBM
POINT	I	amb	P	RH	NF	LVM	LBM
DEG.K	amb	Pascal	amb	%	DB	LBM	LBM
103	277.7	99459.	92	-6.0	3.28	3.27	-0.59
104	277.8	99442.	92	-6.0	3.32	3.32	-0.44
105	278.0	99475.	92	-6.2	3.32	3.32	-0.43
106	278.3	99472.	92	-6.2	3.32	3.32	-0.43
107	278.1	99502.	92	-6.4	3.36	3.36	-0.32
108	278.1	99452.	92	-6.4	3.39	3.39	-0.23
111	277.9	99465.	92	-6.5	3.39	3.39	-0.24
112	278.1	99445.	92	-6.5	3.39	3.39	-0.17
113	278.1	99506.	92	-6.6	3.41	3.41	-0.16
114	278.9	99479.	92	-6.6	3.41	3.41	-0.02
119	278.2	99482.	92	-6.9	3.46	3.46	-0.03
120	279.1	99506.	92	-6.9	3.45	3.45	-0.10
121	278.1	99459.	92	-7.1	3.49	3.49	0.10
122	279.2	99495.	92	-7.1	3.50	3.50	0.10
103	104.8	101.6	101.0	104.8	101.6	101.0	104.8
104	104.9	101.7	101.0	104.9	101.7	101.0	104.9
105	105.8	101.6	101.0	105.8	101.6	101.0	105.8
106	105.8	101.6	101.0	105.8	101.6	101.0	105.8
107	106.2	101.7	101.0	106.2	101.7	101.0	106.2
108	106.3	101.7	101.0	106.3	101.7	101.0	106.3
111	106.9	101.7	101.0	106.9	101.7	101.0	106.9
112	106.9	101.7	101.0	106.9	101.7	101.0	106.9
113	107.5	101.7	101.0	107.5	101.7	101.0	107.5
114	107.5	101.7	101.0	107.5	101.7	101.0	107.5
119	108.5	101.7	101.0	108.5	101.7	101.0	108.5
120	108.5	101.7	101.0	108.5	101.7	101.0	108.5
121	108.8	101.7	101.0	108.8	101.7	101.0	108.8
122	108.8	101.7	101.0	108.8	101.7	101.0	108.8
103	112.2	115.3	115.6	112.2	115.3	115.6	112.2
104	112.2	115.3	115.6	112.2	115.3	115.6	112.2
105	109.8	112.6	112.7	109.8	112.6	112.7	109.8
106	109.8	112.6	112.7	109.8	112.6	112.7	109.8
107	110.4	110.4	110.4	110.4	110.4	110.4	110.4
108	110.4	110.4	110.4	110.4	110.4	110.4	110.4
111	110.4	110.4	110.4	110.4	110.4	110.4	110.4
112	110.4	110.4	110.4	110.4	110.4	110.4	110.4
113	110.4	110.4	110.4	110.4	110.4	110.4	110.4
114	110.4	110.4	110.4	110.4	110.4	110.4	110.4
119	110.4	110.4	110.4	110.4	110.4	110.4	110.4
120	110.4	110.4	110.4	110.4	110.4	110.4	110.4
121	110.4	110.4	110.4	110.4	110.4	110.4	110.4
122	110.4	110.4	110.4	110.4	110.4	110.4	110.4
103	185.9	184.5	184.9	185.9	184.5	184.9	185.9
104	185.9	184.5	184.9	185.9	184.5	184.9	185.9
105	185.9	184.5	184.9	185.9	184.5	184.9	185.9
106	185.9	184.5	184.9	185.9	184.5	184.9	185.9
107	185.9	184.5	184.9	185.9	184.5	184.9	185.9
108	185.9	184.5	184.9	185.9	184.5	184.9	185.9
111	185.9	184.5	184.9	185.9	184.5	184.9	185.9
112	185.9	184.5	184.9	185.9	184.5	184.9	185.9
113	185.9	184.5	184.9	185.9	184.5	184.9	185.9
114	185.9	184.5	184.9	185.9	184.5	184.9	185.9
119	185.9	184.5	184.9	185.9	184.5	184.9	185.9
120	185.9	184.5	184.9	185.9	184.5	184.9	185.9
121	185.9	184.5	184.9	185.9	184.5	184.9	185.9
122	185.9	184.5	184.9	185.9	184.5	184.9	185.9

3.3 Test Matrix of Model 2

Aerodynamic and Acoustic Test Data - Model 2.

NOZZLE - MODEL 02 AREA [MODEL SIZE = 20.43 ; FULL SIZE = 1400.00] SQ.IN.

TEST POINT V P T V J W F

FT/SEC DEG R FT/SEC LB/SEC LB

201	0	2.72	1723	2282	693.3	49162
202	400	2.72	1747	2301	682.4	48794
203	0	2.87	1722	2334	730.5	52978
204	400	2.89	1725	2343	728.8	53074
205	0	2.95	1728	2365	751.3	55233
206	400	2.97	1732	2373	746.7	55072
207	0	3.02	1716	2378	770.8	56968
208	400	3.04	1730	2395	765.9	57000
211	0	3.07	1721	2398	783.7	58411
212	400	3.08	1736	2410	774.5	58013
213	0	3.12	1728	2417	794.2	59655
214	400	3.13	1736	2425	787.2	59323
215	0	3.18	1717	2426	812.3	61262
216	400	3.19	1722	2432	805.6	60890
219	0	3.22	1729	2446	819.6	62303
220	400	3.23	1734	2453	813.7	62033
221	0	3.31	1712	2458	847.1	64714
222	400	3.33	1713	2462	842.9	64508
223	0	3.51	1715	2508	896.1	69852
224	400	3.52	1737	2528	884.5	69498

TEST POINT T P RH NF LVH LBM PNL (FULL SIZE 2400 FT SIDE LINE), DB ANGLE RELATIVE TO INLET, DEGREES CAPWL DB

amb amb % DB 50 60 70 90 120 130 140

201	510.1	14.45	70	-5.6	3.14	96.6	100.2	101.6	110.3	114.6	110.7	184.7
202	535.3	14.30	39	-5.8	3.07	99.5	101.4	101.1	107.8	111.1	109.7	182.8
203	512.0	14.43	70	-6.1	3.23	95.8	99.4	101.8	111.2	115.5	110.8	185.3
204	534.8	14.29	39	-6.3	3.15	98.9	97.6	100.9	108.6	111.7	110.2	183.8
205	510.6	14.43	70	-6.3	3.29	95.3	95.5	101.9	111.6	115.7	110.3	185.4
206	525.4	14.29	39	-6.4	3.25	98.0	97.4	101.4	109.4	112.3	110.3	184.2
207	510.3	14.43	70	-6.4	3.32	95.0	99.1	101.9	111.7	115.6	112.1	185.9
208	524.8	14.29	66	-6.5	3.29	97.2	97.2	100.5	109.3	113.0	110.3	185.1
211	511.0	14.43	70	-6.6	3.35	95.4	99.2	102.4	111.5	116.2	111.9	186.1
212	534.2	14.30	66	-6.7	3.28	97.4	101.0	101.4	109.9	113.1	111.0	186.0
213	512.0	14.43	70	-6.7	3.38	95.7	99.6	102.4	113.4	115.7	111.2	186.2
214	532.4	14.30	66	-6.8	3.40	96.5	97.7	101.8	109.8	113.1	110.9	186.3
215	511.0	14.43	70	-6.8	3.31	97.7	99.1	100.8	109.8	113.1	110.9	186.8
216	532.7	14.30	66	-7.0	3.32	98.7	98.7	101.7	109.8	113.4	111.4	186.9
219	510.6	14.43	70	-6.9	3.44	96.9	96.9	100.8	109.8	113.4	111.4	187.2
220	533.1	14.30	66	-7.0	3.36	99.1	99.1	102.0	109.8	114.5	111.0	187.0
221	510.2	14.43	70	-7.1	3.46	98.1	98.1	101.7	109.8	116.6	111.4	187.6
222	531.5	14.30	66	-7.3	3.38	100.0	100.0	102.9	109.8	114.0	111.6	187.6
223	511.2	14.43	70	-7.5	3.55	100.2	100.2	103.8	109.8	116.8	112.5	188.6
224	531.7	14.43	66	-7.6	3.50	102.8	102.8	105.8	109.8	115.1	112.2	188.6

TEST POINT	V	P	T	V	J	M	F
	FT/SEC	FT/SEC	FT/SEC	FT/SEC	FT/SEC	FT/SEC	FT/SEC
226	400	2.62	1708	2235	664.1	46125	
253	0	3.87	1705	2580	992.0	79554	
1206	400	3.07	886	1709	1099.1	58389	
1207	0	3.12	874	1708	1124.6	59709	
1208	400	3.13	879	1714	1124.4	59895	
1211	0	3.18	870	1714	1146.0	61055	
1212	400	3.18	880	1725	1141.5	61189	
1213	0	3.23	869	1723	1164.9	62387	
1214	400	3.22	873	1726	1162.1	62354	
1215	0	3.28	870	1734	1182.2	63715	
1216	400	3.28	870	1735	1183.4	63801	
1219	0	3.32	866	1738	1202.1	64953	
1220	400	3.33	871	1744	1199.7	65032	
1221	0	3.37	875	1756	1214.1	66265	
1222	400	3.37	874	1755	1213.6	66208	
TEST POINT	V	P	T	V	J	M	F
	FT/SEC	FT/SEC	FT/SEC	FT/SEC	FT/SEC	FT/SEC	FT/SEC
226	534.5	14.30	39	-5.6	2.95	-1.18	99.6
253	511.9	14.42	70	-8.2	3.67	-0.67	104.0
1206	530.0	14.30	77	-9.8	1.80	-0.25	99.1
1207	524.6	14.29	77	-10.0	1.82	-0.17	94.5
1208	529.6	14.30	77	-10.0	1.82	-0.16	97.0
1211	525.4	14.29	77	-10.1	1.83	-0.09	94.4
1212	529.6	14.30	77	-10.1	1.84	-0.09	95.7
1213	532.1	14.30	77	-10.3	1.83	-0.03	94.5
1214	528.7	14.30	77	-10.2	1.85	-0.03	96.5
1215	526.0	14.29	77	-10.3	1.88	0.04	96.2
1216	528.9	14.30	77	-10.3	1.87	0.04	97.7
1219	525.5	14.30	77	-10.4	1.89	0.10	97.3
1220	528.8	14.28	77	-10.4	1.90	0.11	99.0
1221	526.0	14.30	77	-10.5	1.94	0.16	98.2
1222	527.9	14.29	77	-10.5	1.93	0.16	100.7
226	98.7	101.2	101.2	98.7	101.2	101.2	98.7
253	98.7	101.2	101.2	98.7	101.2	101.2	98.7
1206	98.7	101.2	101.2	98.7	101.2	101.2	98.7
1207	98.7	101.2	101.2	98.7	101.2	101.2	98.7
1208	98.7	101.2	101.2	98.7	101.2	101.2	98.7
1211	98.7	101.2	101.2	98.7	101.2	101.2	98.7
1212	98.7	101.2	101.2	98.7	101.2	101.2	98.7
1213	98.7	101.2	101.2	98.7	101.2	101.2	98.7
1214	98.7	101.2	101.2	98.7	101.2	101.2	98.7
1215	98.7	101.2	101.2	98.7	101.2	101.2	98.7
1216	98.7	101.2	101.2	98.7	101.2	101.2	98.7
1219	98.7	101.2	101.2	98.7	101.2	101.2	98.7
1220	98.7	101.2	101.2	98.7	101.2	101.2	98.7
1221	98.7	101.2	101.2	98.7	101.2	101.2	98.7
1222	98.7	101.2	101.2	98.7	101.2	101.2	98.7

TEST POINT T amb P amb P PSIA RH NF LVM LBM PNL (FULL SIZE, 2400 FT SIDE LINE), DB ANGLE RELATIVE TO INLET, DEGREES DB OAPWL

***** S.I. UNITS *****

NOZZLE - MODEL 02 AREA [MODEL SIZE INCHES] ~~INCHES~~ = 0.0132 , FULL SIZE ~~FORM~~ = 0.9031] sq.m.

TEST V ac J T P M F
POINT ac J T P M F

201	0.	695.6	957.2	738.8	2.	7162	314.5	13667	N
202	122	701.3	970.6	749.6	2.	7221	309.5	13565	
203	0	711.4	956.7	727.8	2.	8658	331.3	14728	
204	122	714.1	958.3	727.6	2.	8882	330.6	14755	
205	0	720.9	960.0	724.3	2.	9519	340.8	15355	
206	122	723.3	962.2	725.2	2.	9662	338.7	15310	
207	0	724.8	953.3	715.0	3.	0176	349.6	15837	
208	122	730.0	961.1	719.7	3.	0400	347.4	15846	
211	0	730.9	956.1	713.5	3.	0734	355.5	16239	
212	122	734.6	964.4	719.7	3.	0784	351.3	16128	
213	0	736.7	960.0	713.3	3.	1212	360.2	16584	
214	122	739.1	964.4	716.3	3.	1290	357.1	16492	
215	0	739.4	953.9	704.9	3.	1820	368.5	17031	
216	122	741.3	956.7	706.7	3.	1885	365.4	16928	
219	0	745.5	960.6	707.5	3.	2214	371.8	17321	
220	122	747.7	963.3	709.2	3.	2329	369.1	17246	
221	0	749.2	951.1	694.8	3.	3133	384.2	17991	
222	122	750.4	951.7	694.4	3.	3271	382.3	17934	
223	0	764.4	952.8	685.0	3.	5067	406.5	19419	
224	122	770.5	965.0	693.9	3.	5190	401.2	19321	

TEST T P RH MF LVM LBM PNL (FULL SIZE, 2400 FT SIDE LINE) DB
POINT amb DEG.K Pascals % DB
ANGLE RELATIVE TO INLET DEGREES DB

201	283.4	99613.	70	-5.6	3.14	-0.93	96.6	96.6	96.6	100.2	101.6	110.3	114.6	110.7	184.7
202	297.4	98573.	39	-5.8	3.07	-0.91	99.5	98.4	99.5	101.1	101.8	111.1	109.7	182.8	
203	284.4	99465.	70	-6.1	3.23	-0.61	95.8	95.8	95.8	99.4	101.4	115.5	110.8	185.3	
204	297.1	98556.	39	-6.3	3.15	-0.57	98.9	98.9	98.9	101.6	101.6	111.7	110.2	183.8	
205	283.7	99482.	70	-6.3	3.29	-0.45	95.3	95.3	95.3	99.0	101.9	115.7	110.3	185.4	
206	291.9	98526.	39	-6.4	3.25	-0.43	98.0	97.4	97.4	100.6	101.4	112.3	110.3	184.2	
207	283.5	99506.	70	-6.4	3.32	-0.34	95.4	95.4	95.4	99.1	101.9	115.6	112.1	185.9	
208	291.5	98556.	66	-6.5	3.35	-0.25	97.2	97.2	97.2	100.5	100.7	113.0	110.3	185.1	
211	283.9	99475.	70	-6.6	3.35	-0.25	95.4	95.4	95.4	99.2	102.4	116.2	111.9	186.1	
212	296.8	98587.	66	-6.7	3.28	-0.24	97.4	97.4	97.4	101.0	101.4	113.1	111.0	186.0	
213	284.4	99462.	70	-6.7	3.38	-0.18	95.6	95.6	95.6	99.6	102.4	113.4	111.2	186.2	
214	295.8	98576.	66	-6.8	3.31	-0.17	98.4	98.4	98.4	100.8	101.8	113.1	110.9	185.9	
215	283.9	99472.	70	-6.8	3.40	-0.09	96.5	96.5	96.5	100.1	102.8	115.8	111.5	186.3	
216	295.9	98597.	66	-7.0	3.32	-0.08	99.3	99.3	99.3	101.7	102.6	110.6	111.0	186.8	
219	283.7	99486.	70	-6.9	3.44	-0.03	96.7	96.7	96.7	100.8	103.1	112.7	111.4	186.9	
220	296.2	98576.	66	-7.0	3.36	-0.02	99.8	99.8	99.8	102.0	103.8	110.5	111.0	187.2	
221	283.4	99459.	70	-7.1	3.46	0.09	98.1	98.1	98.1	101.7	103.8	113.3	111.4	187.0	
222	295.3	98587.	66	-7.3	3.38	0.10	100.9	100.9	100.9	102.9	103.0	110.9	111.6	187.6	
223	284.0	99489.	70	-7.5	3.55	0.31	100.7	100.7	100.7	103.8	105.8	113.9	112.5	187.6	
224	295.4	98536.	66	-7.6	3.50	0.33	103.7	103.7	103.7	105.8	105.0	112.0	112.2	188.6	

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TEST V	V	T	P	M	F
226	681.2	948.9	739.7	2.6173	301.2
253	0.	786.4	947.2	661.9	3 8716
1206	122.	520.9	492.2	357.2	3.0734
1207	0.	520.6	485.6	350.8	3.1245
1208	122.	522.4	488.3	352.4	3.1300
1211	0.	522.4	483.3	347.3	3.1761
1212	122.	525.8	488.9	351.1	3.1805
1213	0.	525.2	482.8	345.5	3.2259
1214	122.	526.1	483.0	347.0	3.2240
1215	0	528.5	483.3	344.4	3.2771
1216	122	528.8	483.3	344.4	3.2792
1219	0	529.7	481.1	341.3	3.3236
1220	122	531.6	483.9	343.4	3.3727
1221	0.	535.2	486.1	343.4	3.3727
1222	122	534.9	485.6	343.0	3.3733
m/s					
226	kg/s	301.2	12823	N	
253	0.	450.0	22117		
1206	122.	498.5	16232		
1207	0.	510.1	16599		
1208	122.	510.0	16651		
1209	122.	519.8	16974		
1210	0.	517.8	17011		
1211	122.	528.4	17344		
1212	122.	527.1	17335		
1213	122.	536.2	17713		
1214	122.	536.8	17737		
1215	122.	545.3	18057		
1216	122.	544.2	18079		
1217	122.	550.7	18422		
1218	122.	550.5	18406		
LBM					
226	2.95	1.18	99.6	98.7	101.2
253	-1.18	0.67	104.0	104.3	108.5
1206	99.6	99.1	96.5	99.4	97.9
1207	99.6	99.1	96.5	99.4	97.9
1208	99.6	99.1	96.5	99.4	97.9
1209	99.6	99.1	96.5	99.4	97.9
1210	99.6	99.1	96.5	99.4	97.9
1211	99.6	99.1	96.5	99.4	97.9
1212	99.6	99.1	96.5	99.4	97.9
1213	99.6	99.1	96.5	99.4	97.9
1214	99.6	99.1	96.5	99.4	97.9
1215	99.6	99.1	96.5	99.4	97.9
1216	99.6	99.1	96.5	99.4	97.9
1217	99.6	99.1	96.5	99.4	97.9
1218	99.6	99.1	96.5	99.4	97.9
1219	99.6	99.1	96.5	99.4	97.9
1220	99.6	99.1	96.5	99.4	97.9
1221	99.6	99.1	96.5	99.4	97.9
1222	99.6	99.1	96.5	99.4	97.9
POINT					
TEST					
T					
P					
RH					
NF					
LVH					
Pascal					
DEG.K					
amb					
POINT					
TEST					
T					
P					
RH					
NF					
LVH					
Pascal					
DEG.K					
amb					

3.4 Test Matrix of Model 3

NOZZLE - MODEL 03 AREA [MODEL SIZE = 25.28 ; FULL SIZE = 1400.00] SQ.IN.

TEST POINT	V	P	T	V	M	F	FT/SEC				LB/SEC				LB			
							ac	r	T	J	FT/SEC	LB/SEC	FT/SEC	LB/SEC	FT/SEC	LB/SEC	FT/SEC	LB/SEC
303	0	2.89	1736	2352	732.1	53510	0	0	1731	2350	732.3	53495	0	0	1736	2352	732.1	53510
304	400	2.90	1731	2350	732.3	53495	0	0	1737	2376	748.4	55258	0	0	1737	2376	748.4	55258
305	0	2.96	1737	2376	748.4	55258	0	0	1749	2392	751.2	55845	0	0	1749	2392	751.2	55845
306	400	2.99	1749	2392	751.2	55845	400	0	1748	2413	769.1	57692	400	0	1748	2413	769.1	57692
310	400	3.06	1748	2413	769.1	57692	400	0	1733	2407	777.0	58120	400	0	1733	2407	777.0	58120
313	400	3.16	1741	2436	796.0	60280	400	0	1741	2436	796.0	60280	400	0	1741	2436	796.0	60280
314	400	3.16	1744	2439	794.6	60231	400	0	1743	2452	806.7	61479	400	0	1743	2452	806.7	61479
315	0	3.21	1743	2452	806.7	61479	0	0	1735	2449	812.0	61804	0	0	1735	2449	812.0	61804
316	400	3.22	1735	2449	812.0	61804	400	0	1740	2487	841.7	65049	400	0	1740	2487	841.7	65049
321	0	3.34	1740	2487	841.7	65049	0	0	1727	2485	854.7	66015	0	0	1727	2485	854.7	66015
322	400	3.38	1727	2485	854.7	66015	400	0	1601	2064	625.8	40145	400	0	1601	2064	625.8	40145
349	0	2.38	1601	2064	625.8	40145	0	0	1677	1677	1079.1	56092	0	0	1677	1677	1079.1	56092
1301	0	2.98	863	1666	1083.1	56248	0	0	867	1673	1079.1	56248	0	0	867	1673	1079.1	56248
1302	400	2.98	873	1677	1079.1	56248	400	0	873	1677	1079.1	56248	400	0	873	1677	1079.1	56248
1313	0	3.24	870	1728	1174.7	63087	0	0	867	1723	1173.9	62864	0	0	867	1723	1173.9	62864
1314	400	3.24	871	1763	1242.2	68072	400	0	871	1763	1242.2	68072	400	0	871	1763	1242.2	68072
1323	0	3.44	873	1767	1245.4	68395	0	0	873	1767	1245.4	68395	0	0	873	1767	1245.4	68395
1324	400	3.45	873	1767	1245.4	68395	400	0	873	1767	1245.4	68395	400	0	873	1767	1245.4	68395
4303	0	2.89	1734	2349	731.2	53396	0	0	1734	2349	731.2	53396	0	0	1734	2349	731.2	53396
TEST POINT	T	P	T	V	M	F	ac	r	T	J	FT/SEC	LB/SEC	FT/SEC	LB/SEC	FT/SEC	LB/SEC	FT/SEC	LB/SEC
303	14.38	538.0	69	69	3.16	-0.56	101.2	-0.55	3.17	3.19	96.9	101.3	101.1	98.3	97.5	99.3	102.4	108.7
304	14.35	533.6	64	64	-6.3	-0.56	101.2	-0.55	3.17	3.19	96.9	101.3	101.1	98.3	97.5	99.3	102.4	108.7
305	14.36	539.4	69	69	-6.5	-0.43	101.2	-0.55	3.17	3.19	96.9	101.3	101.1	98.3	97.5	99.3	102.4	108.7
306	14.34	535.1	64	64	-6.9	-0.12	100.5	-0.12	3.30	3.28	99.3	100.5	101.1	98.3	97.5	99.3	102.4	108.7
310	14.33	535.0	64	64	-6.6	-0.27	99.3	-0.27	3.28	3.25	95.8	99.3	101.1	98.3	97.5	99.3	102.4	108.7
313	14.35	539.5	89	89	-6.9	-0.13	100.5	-0.12	3.30	3.28	99.3	100.5	101.1	98.3	97.5	99.3	102.4	108.7
314	14.33	535.1	64	64	-6.9	-0.06	98.3	-0.06	3.33	3.33	96.9	98.3	101.1	98.3	97.5	99.3	102.4	108.7
315	14.33	539.5	89	89	-7.0	-0.06	98.3	-0.06	3.33	3.33	96.9	98.3	101.1	98.3	97.5	99.3	102.4	108.7
316	14.34	535.6	64	64	-7.0	-0.04	103.0	-0.04	3.34	3.39	100.2	103.0	101.3	104.8	104.1	103.3	106.4	109.2
321	14.32	539.4	89	89	-7.3	0.12	100.2	0.12	3.39	3.39	99.4	100.2	101.3	104.8	104.1	103.3	106.4	109.2
322	14.35	539.1	64	64	-7.4	-1.97	92.3	-1.97	3.35	3.35	92.3	92.3	93.6	95.0	95.0	98.0	103.0	107.7
349	14.34	540.4	89	89	-5.2	-0.41	99.4	-0.41	1.65	1.67	103.8	103.8	103.9	103.6	103.7	103.5	103.0	101.4
1301	14.35	539.7	89	89	-9.8	-0.41	99.4	-0.41	1.65	1.67	103.8	103.8	103.9	103.6	103.7	103.5	103.0	101.4
1302	14.35	542.5	64	64	-9.8	-0.40	103.8	-0.40	1.67	1.67	103.8	103.8	103.9	103.6	103.7	103.5	103.0	101.4
1313	14.34	540.2	89	89	-10.4	-0.01	99.2	-0.01	1.80	1.80	99.2	99.2	100.1	101.7	101.1	101.7	103.6	106.6
1314	14.35	542.4	64	64	-10.4	-0.00	104.8	-0.00	1.80	1.80	104.8	104.8	105.6	106.1	104.9	106.6	106.6	105.7
1323	14.33	540.7	66	66	-10.7	1.89	102.2	0.23	0.23	0.23	102.2	102.2	103.5	104.9	103.5	105.7	105.7	103.6
1324	14.34	541.5	66	66	-10.8	1.90	105.1	0.25	0.25	0.25	105.1	105.1	106.1	107.9	106.1	107.9	105.7	103.6
4303	14.38	537.0	68	68	-6.3	3.16	-0.56	101.2	-0.55	3.17	3.19	96.9	101.3	101.1	98.3	97.5	99.3	102.4

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***** S.I. UNITS *****

NOZZLE - MODEL 03 AREA [MODEL SIZE - INNER = 0.0000 , OUTER = 0.0163 FULL SIZE - TOTAL = 0.9031] sq m.

TEST V V J T T P W F

303	0	716.9	964.4	732.0	2.8923	332.1	14876	N
304	122.	716.3	961.7	729.7	2.8973	332.2	14872	
305	0	724.2	965.0	727.6	2.9637	339.5	15362	
306	122.	729.1	971.7	731.4	2.9885	340.7	15525	
309	0.	733.7	962.8	718.7	3.0733	352.4	16158	
310	122.	735.5	971.1	726.1	3.0611	348.9	16039	
313	0.	742.5	967.2	716.8	3.1568	361.1	16758	
314	122.	743.4	968.9	717.9	3.1585	360.4	16745	
315	0.	747.4	968.3	714.8	3.2061	365.9	17092	
316	122	746.5	963.9	710.3	3.2174	368.3	17182	
321	0.	758.0	966.7	705.1	3.3438	381.8	18084	
322	122.	757.4	959.4	697.4	3.3767	387.7	18353	
349	0	629.1	889.4	709.7	2.3770	283.9	11160	
1301	0	507.8	479.4	350.8	2.9785	491.3	15594	
1302	122.	511.1	485.0	354.7	2.9843	489.5	15637	
1313	0	525.2	481.7	344.2	3.2368	532.5	17477	
1314	122.	526.7	483.3	345.5	3.2437	532.8	17539	
1323	0	537.4	483.9	339.9	3.4359	563.5	18924	
1324	122	538.6	485.0	340.5	3.4461	564.9	19014	
4303	0.	716.0	963.3	731.6	2.8885	331.7	14844	

TEST POINT T amb P RH NF LWM LBM PNL (FULL SIZE 2400 FT SIDE LINE), DB ANGLE RELATIVE TO INLET DEGREES CAPWL DB

303	298.9	99179	69	-6.3	3.16	-0.56	96.1	97.5	99.3	102.4	108.7	112.6	110.6	185.4
304	296.4	98910.	64	-6.3	3.17	-0.55	101.2	100.4	101.1	102.6	104.3	109.2	108.2	182.7
305	297.3	98987.	69	-6.5	3.19	-0.43	96.9	98.3	100.0	103.1	109.0	113.0	111.0	185.8
306	297.3	98889.	64	-6.5	3.24	-0.39	101.3	101.1	101.9	103.1	107.3	110.4	109.0	183.7
309	300.2	98994.	89	-6.8	3.25	-0.25	95.8	97.4	99.3	103.0	109.5	113.7	111.1	186.0
310	297.2	98816.	64	-6.6	3.28	-0.27	99.3	100.5	101.1	103.3	108.0	111.1	109.3	184.0
313	299.7	98964	89	-6.9	3.30	-0.13	96.9	98.3	100.0	103.6	110.1	114.0	111.7	186.6
314	297.3	98812.	64	-6.9	3.33	-0.12	100.5	101.6	102.3	103.6	108.1	110.8	110.1	184.6
315	299.7	98819.	89	-7.0	3.33	-0.06	98.3	99.7	101.6	104.4	110.0	114.5	111.5	186.8
316	297.5	98863.	64	-7.0	3.34	-0.04	103.0	104.0	104.4	105.2	109.2	111.6	110.3	185.5
321	299.7	98765.	89	-7.3	3.39	0.12	100.2	101.3	103.3	106.4	110.6	115.2	111.7	187.8
322	299.5	98910.	64	-7.4	3.39	0.16	103.8	104.1	104.8	106.6	109.4	112.8	110.7	188.6
349	300.2	98889.	89	-5.2	2.58	-1.97	92.3	93.6	95.0	98.0	103.7	106.6	107.7	180.5
1301	299.8	98913.	89	-9.8	1.65	-0.41	99.4	100.2	101.6	103.0	101.4	101.3	101.2	180.9
1302	301.4	98920.	64	-9.8	1.67	-0.40	103.8	103.9	103.8	103.5	102.0	99.9	97.3	181.4
1313	300.1	98886	89	-10.4	1.80	-0.01	99.2	100.1	101.7	103.6	97.3	103.0	103.0	182.8
1314	301.3	98950.	64	-10.4	1.80	-0.00	104.8	105.6	106.1	104.8	102.2	102.8	98.9	185.8
1323	300.4	98802	66	-10.7	1.89	0.23	102.2	103.5	104.9	106.6	105.2	104.7	104.7	187.9
1324	300.8	98876	66	-10.8	1.90	0.25	105.1	106.1	107.5	105.7	103.6	103.0	100.8	185.3
4303	298.3	99152	68	-6.3	3.16	-0.57	94.7	97.0	98.7	102.3	107.7	111.0	109.7	184.5

ORIGINAL PAGE 12
OF POOR QUALITY

***** S.I. UNITS *****

NOZZLE - MODEL 03 CONTINUED

TEST	V	V	T	T	P	M	F
POINT	ac	J	T	T	J	T	P
m/s	m/s	K	K	kg/s	N		
4313	0.	738.5	962.2	714.2	3.1330	360.0	16616
4321	0.	752.2	953.3	694.9	3.3414	385.8	18140
5301	0.	507.8	480.6	352.0	2.9675	490.2	15555
5313	0.	523.6	480.0	343.6	3.2257	532.9	17442
5323	0	534.6	481.1	338.9	3.4081	561.8	18764
TEST	T	P	RH	NF	LVH	LBM	
POINT	amb	amb					
DEG K	Pascal	%	DB				
4313	298.6	99145.	68	-6.9	3.29	-0.16	97.6
4321	298.3	99152.	68	-7.4	3.37	0.12	98.7
5301	299.4	99179.	69	-9.8	1.65	-0.42	97.7
5313	298.9	99152.	69	-10.4	1.79	-0.03	99.0
5323	298.9	99038.	68	-10.7	1.88	0.20	100.2
4313	99.2	100.9	104.3	109.1	112.8	110.1	186.1
4321	99.9	100.6	102.1	105.5	113.8	110.8	187.3
5301	98.6	100.1	101.7	100.9	100.6	100.0	178.4
5313	98.6	100.1	101.5	103.3	102.4	102.1	180.7
5323	101.2	102.6	104.8	103.9	103.3	102.0	182.0
PNL (FULL SIZE 2400 FT SIDE LINE) DB							
ANGLE RELATIVE TO INLET, DEGREES							
140							
130							
120							
90							
70							
60							
50							
OAPWL							
DB							

3.5 Test Matrix of Model 4

Aerodynamic and Acoustic Test Data - Model 4.

= 1400.00] SQ.IN.

= 25.28 ; FULL SIZE

AREA [MODEL SIZE

NOZZLE - MODEL 04

TEST
POINT

ac
FT/SEC

P

T

V

M

F

LB

LB/SEC

FT/SEC

LB

401	0	2.72	1725	2284	693.5	49232
402	400	2.72	1730	2289	693.5	49348
403	0	2.84	1736	2335	722.9	52469
404	400	2.87	1737	2345	728.7	53107
405	0	2.97	1739	2379	755.0	55822
406	400	2.97	1736	2377	755.2	55790
407	0	3.02	1728	2387	770.0	57133
408	400	3.04	1735	2397	772.1	57510
409	0	3.07	1734	2407	781.7	58474
410	0	3.09	1732	2410	785.6	58848
411	400	3.12	1731	2418	793.6	59643
412	0	3.11	1741	2423	795.5	59911
413	400	3.16	1737	2435	803.5	60806
414	0	3.18	1742	2443	806.4	61236
415	400	3.23	1729	2447	821.9	62514
416	0	3.23	1750	2463	817.6	62597
419	400	3.33	1738	2481	846.0	65233
421	0	3.34	1739	2484	846.6	65357
422	400	3.53	1739	2533	897.5	70652
424	0	3.54	1744	2537	895.8	70644

TEST
POINT

T
amb

DEG R

P
amb

PSIA

%

RH

NF

LVM

LBM

50

60

70

90

120

130

140

OAPWL
DB

401	527.3	14.46	58	-5.8	3.07	-0.93	95.0	97.3	96.3	97.8	102.0	108.5	111.3	118.2
402	537.7	14.45	58	-5.9	3.04	-0.91	95.0	97.3	96.3	97.8	102.0	108.5	111.3	118.2
403	526.8	14.46	58	-6.1	3.17	-0.66	94.8	97.1	96.1	97.6	102.5	109.1	112.2	118.2
404	538.1	14.45	58	-6.3	3.14	-0.61	97.1	97.6	97.6	97.6	102.5	109.1	112.2	118.2
405	529.7	14.46	58	-6.4	3.24	-0.42	99.5	97.0	98.9	97.8	100.3	108.3	112.2	118.2
406	537.1	14.45	58	-6.5	3.21	-0.42	99.5	97.0	98.9	97.8	100.3	108.3	112.2	118.2
407	530.2	14.45	58	-6.6	3.25	-0.33	100.0	96.3	97.4	97.4	101.2	102.8	110.4	118.2
408	539.7	14.45	58	-6.7	3.23	-0.31	100.0	96.3	97.4	97.4	101.2	102.8	110.4	118.2
411	530.2	14.45	58	-6.7	3.26	-0.25	100.0	96.3	97.4	97.4	101.2	102.8	110.4	118.2
412	539.7	14.46	58	-6.8	3.31	-0.18	96.5	97.6	99.4	97.6	103.6	110.4	115.2	118.2
413	530.5	14.46	58	-6.9	3.29	-0.19	100.5	98.0	101.4	101.4	103.3	108.4	111.9	118.2
414	537.6	14.45	58	-6.9	3.34	-0.12	96.8	98.0	99.9	101.7	103.5	108.6	111.9	118.2
415	530.4	14.45	58	-6.9	3.32	-0.10	97.8	97.8	99.9	101.7	103.5	108.6	111.9	118.2
416	537.7	14.45	45	-7.0	3.35	-0.03	97.8	97.8	99.9	101.7	103.5	108.6	111.9	118.2
419	531.7	14.45	55	-7.1	3.35	-0.02	102.0	102.0	102.0	102.0	106.3	109.6	111.1	118.2
420	538.6	14.45	55	-7.3	3.41	0.11	99.6	103.3	104.0	106.3	109.6	111.1	118.2	118.2
421	532.7	14.45	55	-7.3	3.39	0.12	100.1	103.5	104.0	106.3	109.6	111.1	118.2	118.2
422	538.5	14.45	55	-7.7	3.50	0.34	105.0	108.8	109.6	109.6	109.6	109.6	109.6	109.6
423	533.1	14.45	55	-7.7	3.48	0.35	105.0	108.8	109.6	109.6	109.6	109.6	109.6	109.6
424	539.5	14.46	58	-5.8	3.07	-0.93	95.0	97.3	96.3	97.8	102.0	108.5	111.3	118.2

NOZZLE - MODEL 04 CONTINUED

TEST	POINT	V	P	T	V	T	FT/SEC	LB/SEC	LB
ac	FT/SEC	ac	FT/SEC	ac	FT/SEC	ac	FT/SEC	ac	FT/SEC
449	0	2.36	1590	1716	2155	618.0	39975	628.0	39975
451	0	2.41	1716	2155	618.0	617.5	41448	617.5	41448
452	400	2.42	1720	2160	617.5	997.0	80877	997.0	80877
453	0	3.92	1731	2610	997.0	80643	80643	80643	80643
454	400	3.91	1746	2620	990.2	58863	58863	58863	58863
1405	0	3.07	873	1696	1116.7	58426	58426	58426	58426
1406	400	3.05	874	1691	1111.5	61683	61683	61683	61683
1411	0	3.18	872	1716	1156.7	62098	62098	62098	62098
1412	400	3.18	868	1714	1165.7	63237	63237	63237	63237
1413	0	3.23	865	1720	1182.6	63417	63417	63417	63417
1414	400	3.23	861	1716	1188.8	63095	63095	63095	63095
1415	0	3.22	859	1713	1185.4	64201	64201	64201	64201
1416	400	3.26	866	1727	1196.1	65490	65490	65490	65490
1419	0	3.31	851	1721	1224.2	65802	65802	65802	65802
1420	400	3.32	861	1733	1221.8	66968	66968	66968	66968
1421	0	3.37	851	1731	1244.4	67038	67038	67038	67038
1422	400	3.37	854	1734	1243.7	57502	57502	57502	57502
1466	400	3.02	999	1802	1026.6	57579	57579	57579	57579
1468	400	3.04	1254	2029	913.1	831.5	57071	831.5	57071
1470	400	3.02	1487	2208	831.5	57071	57071	57071	57071

TEST POINT
T amb
P amb
RH
NF
LVM
LBM
PNL (FULL SIZE, 2400 FT SIDE LINE), DB
ANGLE RELATIVE TO INLET, DEGREES
90 70 60 50
140

449	535.5	14.44	51	-5.2	2.78	-1.82	93.3	94.2	96.0	99.6	104.7	107.3	108.1	109.1	182.7	187.3
451	536.0	14.46	55	-5.0	2.79	-1.81	94.0	94.6	95.6	100.4	105.7	108.9	109.1	109.1	182.7	187.3
452	537.7	14.45	51	-5.0	2.79	-1.81	94.0	94.6	95.6	100.4	105.7	108.9	109.1	109.1	182.7	187.3
453	532.8	14.45	55	-8.4	3.63	0.71	99.0	100.2	101.9	106.9	113.3	117.8	113.0	113.0	188.6	189.5
454	539.0	14.44	45	-8.4	3.62	0.70	97.5	98.7	99.5	104.0	106.3	111.9	104.3	104.3	180.6	180.4
1405	525.1	14.43	61	-9.9	1.79	-0.25	100.1	101.0	101.4	101.9	101.6	99.0	97.6	97.6	176.0	176.0
1406	542.9	14.49	42	-10.0	1.70	-0.29	97.3	98.5	99.5	101.9	103.8	104.8	98.5	98.5	180.6	180.6
1411	527.0	14.44	61	-10.1	1.83	-0.10	97.3	98.5	99.5	101.9	103.8	104.8	98.5	98.5	176.4	176.4
1412	542.6	14.50	42	-10.3	1.76	-0.09	100.3	101.6	101.6	101.6	103.6	104.6	104.3	104.3	181.2	181.2
1413	527.3	14.44	61	-10.3	1.84	-0.02	97.3	98.8	99.8	103.6	102.2	104.3	104.3	104.3	176.9	176.9
1415	543.5	14.50	42	-10.5	1.77	-0.02	101.1	101.6	102.1	101.1	100.0	99.7	99.0	99.0	181.4	181.4
1416	543.0	14.49	42	-10.5	1.80	0.02	101.8	102.5	103.6	101.1	100.5	100.4	99.4	99.4	177.8	177.8
1419	536.8	14.48	58	-10.6	1.81	0.09	98.7	99.9	101.1	101.8	100.5	100.4	99.4	99.4	182.4	182.4
1420	542.4	14.50	42	-10.6	1.82	0.10	98.9	100.5	102.3	103.3	104.0	105.4	106.4	106.4	178.9	182.8
1421	539.0	14.47	58	-10.7	1.81	0.16	105.0	105.7	105.7	104.0	102.1	101.9	101.0	101.0	180.9	180.9
1422	542.8	14.49	42	-10.8	1.81	0.16	100.3	100.3	100.3	100.7	100.2	100.2	99.6	99.6	176.9	176.9
1466	539.3	14.48	44	-9.3	2.00	-0.34	100.3	100.3	100.3	100.3	100.3	100.3	100.3	100.3	179.4	179.4
1468	540.6	14.40	45	-8.2	2.50	-0.31	100.3	100.3	100.3	100.3	100.3	100.3	100.3	100.3	181.9	181.9
1470	539.3	14.44	45	-7.4	2.88	-0.34	100.3	100.3	100.3	100.3	100.3	100.3	100.3	100.3	181.9	181.9

ORIGINAL PAGE IS
OF POOR QUALITY

OPAWL

DB

NOZZLE - MODEL 04 AREA (MODEL SIZE 0 0163 FULL SIZE = 0 9031] sq.m.

S.I. UNITS *****

TEST V ac j T P W F

401	0.	696.2	958.3	739.9	2.7176	314.6	13687
402	122.	697.7	961.1	741.6	2.7236	314.6	13719
403	0.	711.7	964.4	735.9	2.8421	327.9	14587
404	122.	714.8	965.0	734.5	2.8677	330.5	14764
405	0.	725.1	966.1	727.9	2.9706	342.5	15519
406	122.	724.5	964.4	726.6	2.9704	342.6	15510
407	0	727.6	960.0	719.9	3.0213	349.3	15883
408	122.	730.6	963.9	722.1	3.0353	350.2	15988
411	0.	733.7	963.3	718.9	3.0730	354.6	16256
412	122	734.6	962.2	717.3	3.0885	356.3	16360
413	0.	737.0	961.7	715.2	3.1163	360.0	16581
414	122.	738.5	967.2	719.7	3.1109	360.8	16586
415	0.	742.2	965.0	714.8	3.1613	364.5	16904
416	122	744.6	967.8	716.0	3.1777	365.8	17024
419	0.	745.8	960.6	707.4	3.2259	372.8	17379
420	122.	750.7	972.2	716.2	3.2300	370.9	17402
421	0.	756.2	965.6	705.1	3.3285	383.7	18135
422	122.	757.1	966.1	704.9	3.3367	384.0	18170
423	0	772.1	966.1	693.9	3.5338	407.1	19642
424	122.	773.3	968.9	695.9	3.5360	406.3	19640

TEST POINT T amb P amb DEG K Pascals % dB NF LWN LBM PNL (FULL SIZE 2400 FT SIDE LINE) DB ANGLE RELATIVE TO INLET DEGREES CAPWL DB

401	292.9	99684.	58	-5.8	3.07	-0.93	95.0	95.9	97.8	102.0	108.5	112.4	111.3
402	298.7	99610.	47	-5.9	3.04	-0.91	97.3	97.4	98.3	100.3	105.0	108.3	108.5
403	292.7	99681.	58	-6.1	3.17	-0.66	94.8	95.7	97.6	102.5	109.1	109.8	109.5
404	298.3	99627.	47	-6.3	3.14	-0.61	97.1	97.8	98.8	100.8	106.1	109.1	109.5
405	294.4	99671.	58	-6.4	3.24	-0.42	96.1	97.0	98.9	103.3	110.0	114.7	112.3
406	298.4	99620.	47	-6.5	3.21	-0.42	99.5	99.8	100.7	102.4	107.3	110.6	110.2
407	294.5	99633.	58	-6.6	3.25	-0.33	96.3	97.2	99.1	103.4	110.1	114.9	111.4
408	299.8	99658.	47	-6.7	3.23	-0.31	100.0	100.1	101.2	102.8	107.7	110.4	110.4
411	294.5	99610.	58	-6.7	3.29	-0.25	96.3	97.4	99.2	103.6	110.3	115.0	111.1
412	299.8	99556.	45	-6.8	3.26	-0.23	100.0	100.3	101.0	102.8	107.9	111.7	110.7
413	294.7	99664.	58	-6.8	3.31	-0.18	96.5	97.6	99.4	103.6	110.4	115.2	111.6
414	298.7	100357.	44	-6.9	3.29	-0.19	100.5	100.6	101.4	103.3	108.4	111.9	111.9
415	294.7	99633.	58	-6.9	3.34	-0.12	96.8	98.0	99.9	104.1	110.6	115.3	111.9
416	298.7	99633.	45	-7.0	3.32	-0.10	100.8	101.0	101.7	103.5	108.6	112.2	111.0
419	295.4	99637.	55	-7.1	3.35	-0.03	97.8	99.0	100.6	104.9	110.4	115.5	112.0
420	299.2	99606	45	-7.1	3.35	-0.02	102.0	101.4	102.3	104.2	108.9	112.3	111.3
421	295.9	99654	55	-7.3	3.41	0.11	99.6	102.0	106.3	106.3	111.1	115.8	112.3
422	299.2	99516.	45	-7.3	3.39	0.12	103.5	103.3	104.0	105.8	109.6	113.1	111.8
423	296.2	99620.	55	-7.7	3.50	0.34	100.1	101.1	102.9	107.1	112.3	116.9	112.7
424	299.7	99526.	45	-7.7	3.48	0.35	105.0	104.8	105.4	106.5	110.8	114.4	112.1

ORIGINAL DRAWING OF POOR QUALITY

***** S.I. UNITS *****

NOZZLE - MODEL CONTINUED

TEST V	V	T	P	W	F
POINT ac	J	T	J	T	P
m/s	O	O	K	Kg/s	N
7401	0.	463.0	969.4	876.3	4813
9405	0.	643.7	755.6	558.3	16008
9406	122	637.6	748.3	554.3	16018
9411	0.	648.0	745.0	544.1	16841
9412	122	649.2	747.2	545.8	16877
9413	0.	649.8	744.4	542.3	17034
9414	122	651.1	751.1	548.3	17797
9415	0.	658.7	747.8	539.5	17850
9416	122	660.5	750.6	541.7	18482
9421	0.	674.8	768.9	551.4	18389
9422	122	670.9	761.7	546.6	438.6
TEST POINT	T	P	RH	NF	LVM
amb	amb	amb	amb	amb	LBM
DEG. K	Pascal	%	DB		
300.7	99997	44	-2.6	1.25	-10.00
9405	301.2	99960	44	-7.8	2.67
9406	301.8	101614.	42	-7.9	2.63
9411	300.7	99913	44	-8.1	2.71
9412	301.8	100024	42	-8.2	2.71
9413	300.9	99906	44	-8.2	2.72
9414	301.8	99977.	42	-8.1	2.72
9415	300.0	99835	58	-8.4	2.78
9416	301.6	99964	42	-8.4	2.89
9421	299.7	99886.	58	-8.5	2.84
9422	302.1	99869.	42	-8.5	0.13

7401	80.8	83.0	87.5	91.6	92.2	90.2	167.6
9405	96.3	97.6	98.8	101.7	106.0	109.5	184.3
9406	96.5	97.7	98.9	101.9	106.8	110.4	180.5
9411	99.6	100.1	100.7	104.0	106.5	112.0	184.9
9412	98.0	99.2	102.1	104.8	106.5	112.0	181.1
9413	96.6	98.0	101.5	104.4	106.9	108.5	181.4
9414	98.6	100.0	103.8	107.3	110.8	112.7	185.7
9415	100.6	103.0	105.3	108.2	109.4	112.6	183.0
9416	102.7	103.1	105.3	108.3	109.4	112.6	186.4
100.0	101.6	103.0	105.2	108.6	110.1		183.8

50	60	70	90	120	130	140
PNL (FULL SIZE 2400 FT SIDE LINE), DB	ANGLE RELATIVE TO INLET, DEGREES					
OPWL	DB					

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3.6 Test Matrix of Model 5

Aerodynamic and Acoustic Test Data - Model 5.

NOZZLE - MODEL 05 AREA [MODEL SIZE = 19.89 ; FULL SIZE = 1400.00] SQ.IN.

TEST POINT	V	P	T	V	J	W	F
FT/SEC	ac	FT/SEC	DEG R	FT/SEC	LB/SEC	LB	
507	0	3.02	1713	2378	771.3	57002	
508	400	3.01	1712	2373	770.6	56844	
513	0	3.13	1718	2412	795.6	59631	
514	400	3.12	1706	2401	800.6	59746	
519	0	3.23	1707	2432	824.2	62315	
520	400	3.20	1701	2420	821.1	61760	
541	0	2.40	1696	2137	615.6	40889	
542	400	2.41	1712	2152	616.7	41252	
543	0	2.70	1703	2264	692.2	40699	
544	400	2.69	1727	2275	684.3	40385	
545	0	3.62	1718	2537	921.9	72694	
546	400	3.61	1696	2518	928.9	72703	
1505	0	3.07	853	1677	1125.8	58675	
1507	0	3.12	857	1690	1139.0	59824	
1511	0	3.18	853	1698	1164.8	61476	
1513	0	3.22	851	1704	1182.4	62619	
1515	0	3.27	851	1713	1201.1	63960	
1519	0	3.32	852	1725	1219.3	65358	
1521	0	3.37	853	1734	1234.1	66495	
TEST POINT	T	P	RH	NF	LVM	LBM	PNL (FULL SIZE, 2400 FT SIDE LINE), DB
507	528.3	14.39	69	-6.6	3.24	96.7	102.8
508	532.8	14.43	82	-6.6	3.22	101.3	104.0
513	528.4	14.38	69	-6.9	3.27	103.8	104.8
514	531.6	14.44	82	-6.9	3.30	96.9	99.2
519	528.3	14.37	69	-7.1	3.34	97.2	99.6
520	531.3	14.43	82	-7.1	3.31	102.2	100.7
541	527.9	14.39	69	-4.9	2.78	91.6	95.4
542	535.3	14.42	82	-5.0	2.78	95.7	94.9
543	528.6	14.40	69	-5.8	3.03	94.3	97.0
544	534.6	14.42	82	-5.8	3.03	97.8	97.0
545	528.1	14.39	69	-7.9	3.53	98.2	99.5
546	534.5	14.43	82	-8.0	3.47	103.2	100.5
1505	526.4	14.37	77	-10.0	1.73	95.8	94.9
1507	525.8	14.36	77	-10.1	1.77	95.9	95.0
1511	527.4	14.38	77	-10.2	1.78	96.1	95.2
1513	527.4	14.40	77	-10.3	1.80	96.1	95.4
1515	527.6	14.39	77	-10.4	1.82	96.5	95.5
1519	527.5	14.39	77	-10.5	1.85	96.6	98.5
1521	527.5	14.37	77	-10.6	1.88	96.8	99.1
TEST POINT	DEC R	amb	PSIA	PSIA	DB	ANGLE RELATIVE TO INLET, DEGREES	OAPWL
507	528.3	14.39	69	-6.6	3.24	96.7	181.7
508	532.8	14.43	82	-6.6	3.22	101.3	181.2
513	528.4	14.38	69	-6.9	3.27	103.8	182.5
514	531.6	14.44	82	-6.9	3.30	96.9	182.5
519	528.3	14.37	69	-7.1	3.34	97.2	182.5
520	531.3	14.43	82	-7.1	3.31	102.2	182.5
541	527.9	14.39	69	-4.9	2.78	91.6	177.8
542	535.3	14.42	82	-5.0	2.78	95.7	175.6
543	528.6	14.40	69	-5.8	3.03	94.3	179.8
544	534.6	14.42	82	-5.8	3.03	97.8	178.3
545	528.1	14.39	69	-7.9	3.53	98.2	183.4
546	534.5	14.43	82	-8.0	3.47	103.2	183.7
1505	526.4	14.37	77	-10.0	1.73	95.8	178.5
1507	525.8	14.36	77	-10.1	1.77	95.9	178.9
1511	527.4	14.38	77	-10.2	1.78	96.1	179.0
1513	527.4	14.40	77	-10.3	1.80	96.1	179.4
1515	527.6	14.39	77	-10.4	1.82	96.5	179.4
1519	527.5	14.39	77	-10.5	1.85	96.6	179.4
1521	527.5	14.37	77	-10.6	1.88	96.8	179.6

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NOZZLE - MODEL 05 AREA [MODEL SIZE

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TEST V	V	T	P	M	F
POINT	ac	J	T	J	P
507	0.724	951.7	713.2	3.0247	349.9
508	122.723	951.1	713.2	3.0138	349.5
513	0.735	954.4	708.8	3.1268	360.9
514	122.731	947.8	703.5	3.1226	363.1
519	0.741	948.3	697.6	3.2307	373.9
520	122.737	945.0	696.8	3.2010	372.4
541	0.651	942.2	751.5	2.4026	279.7
542	122.655	951.1	758.1	2.4128	279.2
543	0.690	946.1	730.7	2.7042	314.0
544	122.693	959.4	742.7	2.6903	310.4
545	0.773	954.4	680.3	3.6206	418.2
546	122.767	942.2	671.1	3.6138	421.3
1505	0.511	943.9	3.0729	510.7	16312
1507	0.515	946.1	3.1180	516.6	16631
1511	0.517	943.9	3.1787	528.3	17091
1513	0.519	942.8	3.2183	536.3	17408
1515	0.522	947.3	3.3235	553.1	18170
1521	0.528	473.9	3.35.0	3.3690	559.8

3.7 Test Matrix of Model 6

Aerodynamic and Acoustic Test Data - Model 6.

NOZZLE - MODEL 06 AREA (MODEL SIZE - INNER = 0. , OUTER = 19.65 , FULL SIZE - TOTAL = 1400.00] SQ.IN

TEST POINT V P T V J FT/SEC LB/SEC LB

601	0	2.71	1711	2273	697.6	49286
602	400	2.72	1710	2274	696.7	49242
603	0	2.87	1715	2331	736.6	53367
604	400	2.87	1721	2333	733.2	53165
605	0	2.96	1712	2356	757.9	55502
606	400	2.95	1710	2353	756.7	55350
607	0	3.03	1705	2373	778.7	57423
608	400	3.02	1727	2387	771.2	57216
611	0	3.08	1711	2394	790.1	58781
612	400	3.07	1718	2395	784.2	58376
613	0	3.13	1714	2410	802.2	60082
614	400	3.13	1720	2414	796.8	59779
615	0	3.18	1712	2423	814.8	61356
616	400	3.18	1732	2438	806.3	61096
619	0	3.23	1707	2433	824.4	62334
620	400	3.23	1727	2447	824.1	62686
621	0	3.32	1714	2461	848.3	64879
622	400	3.33	1709	2509	898.4	70064
623	0	3.51	1715	2513	895.2	69916
624	400	3.52	1718	2513		

TEST POINT T amb P amb PSIA % DB PNL (FULL SIZE, 2400 FT SIDE LINE), DB ANGLE RELATIVE TO INLET, DEGREES CAPWL DB

601	535.0	14.50	47	-5.9	3.02	101.9	93.6	97.7	98.8	101.3	103.4	105.2	106.2	181.5
602	536.2	14.45	42	-5.9	3.02	101.9	93.6	97.7	98.8	101.3	103.4	105.2	106.2	179.7
603	536.0	14.48	47	-6.3	3.13	94.1	97.4	97.4	98.3	101.5	103.4	105.1	107.6	182.0
604	541.8	14.46	42	-6.3	3.11	99.2	99.2	97.2	98.1	101.6	103.4	105.1	107.6	180.4
605	535.6	14.47	47	-6.5	3.17	93.9	93.9	97.2	98.1	101.6	103.4	105.1	107.6	182.4
606	536.7	14.45	83	-6.5	3.16	99.0	93.8	97.2	98.3	101.5	103.4	105.1	107.6	179.9
607	536.3	14.48	47	-6.7	3.20	93.8	97.2	97.2	98.3	101.5	103.4	105.1	107.6	180.3
608	537.4	14.45	83	-6.7	3.22	98.9	98.9	97.6	99.3	102.7	104.6	107.6	109.4	183.0
611	537.2	14.46	47	-6.8	3.24	94.1	94.1	97.6	99.3	102.7	104.6	107.6	109.4	180.9
612	540.8	14.43	66	-6.8	3.22	94.1	94.1	97.6	99.3	102.7	104.6	107.6	109.4	183.2
613	537.2	14.46	47	-6.9	3.26	94.1	94.1	97.6	99.3	102.7	104.6	107.6	109.4	181.3
614	540.7	14.39	66	-6.9	3.26	94.1	94.1	97.6	99.3	102.7	104.6	107.6	109.4	183.9
615	537.9	14.45	47	-7.1	3.29	94.1	94.1	97.6	99.3	102.7	104.6	107.6	109.4	181.6
616	542.6	14.38	63	-7.0	3.29	94.1	94.1	97.6	99.3	102.7	104.6	107.6	109.4	183.8
619	537.3	14.37	47	-7.2	3.31	98.2	98.2	97.7	99.7	102.3	103.3	105.2	107.6	183.7
620	542.3	14.45	63	-7.2	3.31	100.2	100.2	98.2	99.7	102.3	103.3	105.2	107.6	182.6
621	536.9	14.45	41	-7.4	3.36	95.5	95.5	99.3	99.3	103.3	104.1	106.1	107.4	185.5
622	541.0	14.35	59	-7.4	3.34	100.4	100.4	99.1	99.1	103.6	104.1	106.1	107.4	183.5
623	537.3	14.45	42	-7.8	3.44	95.4	95.4	99.1	99.1	103.6	104.1	106.1	107.4	181.5

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NOZZLE - MODEL 06 CONTINUED

TEST	POINT	V	P	T	V	M	F
1605	1605	0	3.07	878	1701	1116.8	59042
1607	1607	0	3.12	865	1699	1145.3	60494
1611	1611	0	3.17	866	1709	1161.0	61674
1613	1613	0	3.21	863	1714	1179.6	62851
1615	1615	0	3.27	866	1729	1197.6	64348
1619	1619	0	3.33	864	1738	1222.1	66017
1621	1621	0	3.37	864	1745	1236.6	67059
1605	528.8	14.49	47	-9.9	1.79	-0.26	94.0
1607	530.5	14.49	47	-10.1	1.78	-0.17	94.2
1611	530.6	14.48	47	-10.2	1.80	-0.11	95.1
1613	531.9	14.49	47	-10.3	1.81	-0.05	95.0
1615	532.2	14.47	47	-10.4	1.84	0.03	95.1
1619	532.5	14.47	47	-10.5	1.86	0.11	96.1
1621	533.0	14.48	47	-10.6	1.88	0.16	96.0
1605	97.2	98.6	100.1	98.4	98.8	99.5	99.9
1607	97.6	98.8	100.3	98.4	98.6	99.0	99.5
1611	98.3	98.5	100.8	98.7	98.5	99.2	99.7
1613	98.5	98.8	100.8	98.7	98.5	99.2	99.7
1615	98.6	98.8	100.8	98.7	98.5	99.2	99.7
1619	98.7	98.8	100.8	98.7	98.5	99.2	99.7
1621	98.8	98.8	100.8	98.7	98.5	99.2	99.7

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NOZZLE - MODEL 06

AREA [MODEL SIZE

= 0.0127

FULL SIZE

= 0.9031] sq m.

***** S.I. UNITS *****

TEST V ac J
V T
T
T
P
F

m/s
m/s
K
K
kg/s
N

601	0.	692.8	950.6	733.7	2.7146	316.4	13702
602	122.	693.1	950.0	732.9	2.7186	316.0	13689
603	0	710.5	952.8	724.3	2.8725	334.1	14836
604	122.	711.1	956.1	726.9	2.8678	332.6	14780
605	0.	718.1	951.1	717.3	2.9563	343.8	15430
606	122.	717.2	950.0	716.6	2.9528	343.2	15388
607	0	723.3	947.2	709.1	3.0282	353.2	15964
608	122.	727.6	959.4	719.1	3.0242	349.8	15906
609	0.	729.7	950.6	708.5	3.0830	358.4	16341
610	0.	734.6	952.2	706.4	3.1321	363.9	16703
611	122.	730.0	954.4	712.1	3.0716	355.7	16229
612	0.	734.6	952.2	706.4	3.1321	363.9	16703
613	122.	735.8	955.6	709.1	3.1319	361.4	16619
614	0.	738.5	951.1	702.9	3.1814	369.6	17057
615	122.	743.1	962.2	711.4	3.1840	365.7	16985
616	0.	741.6	948.3	697.6	3.2315	373.9	17329
619	122.	745.8	959.4	706.1	3.2323	373.8	17427
620	0.	750.4	952.2	694.8	3.3245	386.1	18108
621	122.	750.1	949.4	692.4	3.3325	384.8	18037
622	0.	764.7	952.8	684.7	3.5117	407.5	19478
624	122.	766.0	954.4	685.8	3.5171	406.1	19437

TEST POINT
T amb
P amb
RH
NF
LVH
LBM

601	297.2	99940.	47	-5.9	3.02	3.02	-0.93
602	297.9	99640.	42	-5.9	3.02	-0.92	101.9
603	297.8	99860.	47	-6.3	3.13	-0.61	94.1
604	301.0	99717.	42	-6.3	3.11	-0.44	99.2
605	297.5	99748.	47	-6.5	3.17	-0.45	97.4
606	298.2	99640.	83	-6.5	3.16	-0.45	101.9
607	297.9	99805.	47	-6.7	3.20	-0.32	93.8
608	298.5	99644.	83	-6.7	3.22	-0.33	98.9
609	298.4	99671.	47	-6.8	3.24	-0.24	97.6
610	300.4	99495.	66	-6.8	3.22	-0.25	99.2
611	300.4	99691.	47	-6.9	3.26	-0.16	100.2
612	298.4	99196.	66	-6.9	3.26	-0.16	102.6
613	300.4	99196.	47	-7.1	3.29	-0.09	98.2
614	301.4	99647.	47	-7.2	3.31	-0.09	102.7
615	298.3	99647.	63	-7.2	3.31	-0.09	102.7
616	301.4	99125.	47	-7.2	3.31	-0.09	98.4
619	258.5	99102.	47	-7.2	3.31	-0.09	100.2
620	301.3	99637.	63	-7.4	3.36	-0.10	95.5
621	298.3	99651.	41	-7.4	3.36	-0.11	100.4
622	300.5	98937.	59	-7.4	3.44	-0.32	95.4
623	298.5	99600.	42	-7.8	3.44	-0.32	100.5
624	302.4	99189.	59	-7.8	3.42	-0.33	103.4

PNL (FULL SIZE 2400 FT SIDE LINE), DB
ANGLE RELATIVE TO INLET DEGREES
60
70
90
120
130
140

93.6	97.7	97.6	103.6	98.8	101.3	103.4	105.2	106.2	181.5
94.1	97.4	97.4	103.5	98.3	103.5	103.6	105.9	107.6	179.7
94.9	97.4	97.4	103.5	98.3	103.5	103.6	105.9	107.6	182.0
99.2	102.5	102.1	103.4	101.6	101.6	101.6	106.8	108.3	180.4
99.0	101.9	101.4	104.6	104.3	104.3	104.3	106.8	108.3	182.7
98.9	101.8	102.7	104.8	103.3	103.3	103.3	104.6	106.3	180.3
94.1	97.6	99.3	101.9	104.9	105.1	105.1	107.6	109.4	183.0
94.5	98.2	99.7	102.6	102.6	102.6	102.6	104.8	106.3	180.9
94.6	98.4	99.6	102.6	102.6	102.6	102.6	104.8	106.3	183.8
100.2	102.8	102.8	103.3	103.3	103.3	103.3	105.7	106.3	182.0
100.4	104.0	103.9	103.3	103.3	103.3	103.3	105.7	106.3	184.3
95.5	99.3	104.1	103.3	103.3	103.3	103.3	105.7	106.3	182.6
95.4	99.1	104.0	103.3	103.3	103.3	103.3	105.7	106.3	185.5
100.5	103.4	103.4	103.3	103.3	103.3	103.3	105.7	106.3	183.7

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TEST V ac j T T P W F

1605	1607	1611	1613	1615	1619	1621	m/s	°	K	kg/s	N	LBM	PNL (FULL SIZE ANGLE RELATIVE TO INLET DEGREES	DB	OAPWL
TEST	T	P	RH	NF	LVM	LBM	°	°	°	°	°	°	°	°	°
POINT	amb	amb	amb	amb	amb	amb	°	°	°	°	°	°	°	°	°
DEC. K	Pascal	%	DB												
1605	293.8	99886.	47	-9.9	1.79	-0.26	94.0	97.2	98.6	100.1	98.4	98.8	99.0	99.5	177.5
1607	294.7	99890.	47	-10.1	1.78	-0.17	94.2	97.6	98.8	100.3	98.4	98.8	99.0	99.6	177.3
1611	294.8	99815.	47	-10.2	1.80	-0.11	95.1	98.3	99.5	100.8	98.4	98.8	99.0	99.6	177.7
1613	295.5	99876.	47	-10.3	1.81	-0.05	95.0	98.5	99.6	100.8	98.4	98.8	99.0	99.6	178.3
1615	295.7	99751.	47	-10.4	1.84	0.03	95.1	98.4	99.7	101.0	98.4	98.8	99.5	99.7	178.7
1619	295.8	99758.	47	-10.5	1.86	0.11	96.1	99.3	100.6	101.8	98.4	98.8	99.5	99.7	178.7
1621	296.1	99842.	47	-10.6	1.88	0.16	96.0	98.2	99.9	101.9	98.4	98.8	99.5	99.7	178.8

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4.0 ACOUSTIC TEST RESULTS

The far-field acoustic data measured with the test nozzles described in Section 2.0 and for each of the test conditions defined in Section 3.0 are presented in the following subsections. A summary of the data acquisition and reduction procedures along with a brief description of the General Electric Anechoic Test Facility are presented in Appendices I through III, Volume III, of the CDR.

4.1 DESCRIPTION OF ACOUSTIC DATA TABLES

The far-field acoustic data for a given test point are described in three successive tabulations. Sample sheets of these tabulations are provided in Tables 4-1 through 4-3. The scope of the tabulations is summarized below:

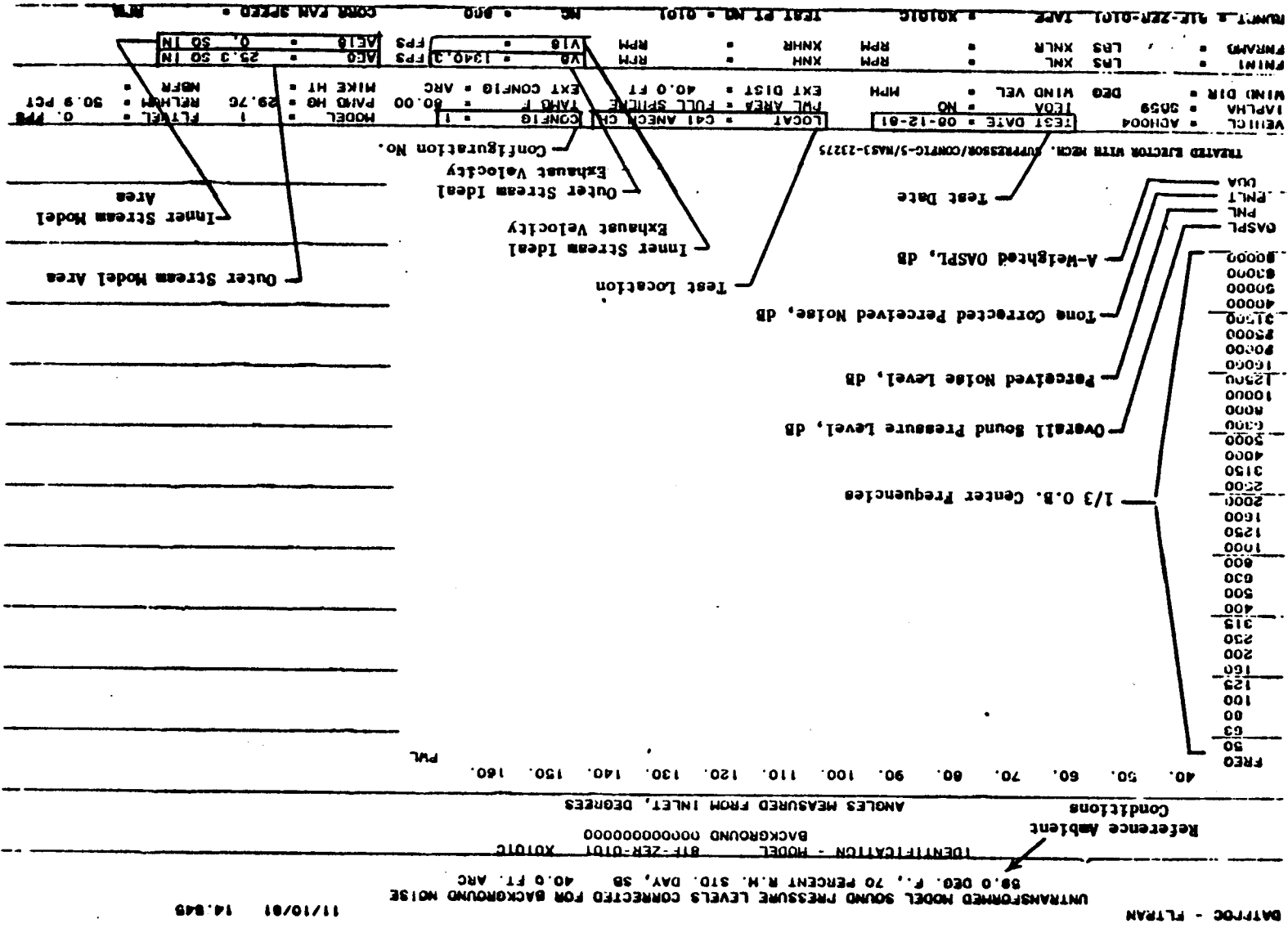
<u>Sample Sheet</u>	<u>Size</u>	<u>Extrapolated Distance</u>	<u>Type of Data</u>
Table 4-1	Actual Model	12.2 m (40 ft) Arc	Untransformed but corrected for background noise and standard day.
Table 4-2	Actual Model	12.2 m (40 ft) Arc	Flight-transformed model data. Refraction and turbulence corrections applied.
Table 4-3	0.9032 m^2 (1400 in ²)	731.5 m (2400 ft) sideline	Flight-transformed model data that is scaled and extrapolated to a typical AST case.

The far-field acoustic data provided in these tables mainly consist of 1/3-octave-band sound pressure levels (SPL) (Ref. 20 $\mu\text{N/m}^2$) and overall sound pressure levels (OASPL) at angles to the inlet of 40° through 160° (in 10° increments). The 1/3-octave-band sound power level (Ref. 10⁻³ watts) spectra are presented in each of these tables. In addition, for the case of the scaled and extrapolated data set, the perceived noise level (PNL) and the tone-corrected perceived noise level (PNLT) have been computed at each of the microphone angles and are presented. The Shields and Bass air attenuation model

(Reference 3.4) has been employed to correct the measured data to a standard day (15° C or 59° F and 70% relative humidity).

The acoustic results of the test nozzles are presented in Subsections 4.2 through 4.7.

Table 4-1. Description of Acoustic Data Sheet - Page 1 of Test Point Data Sheet.



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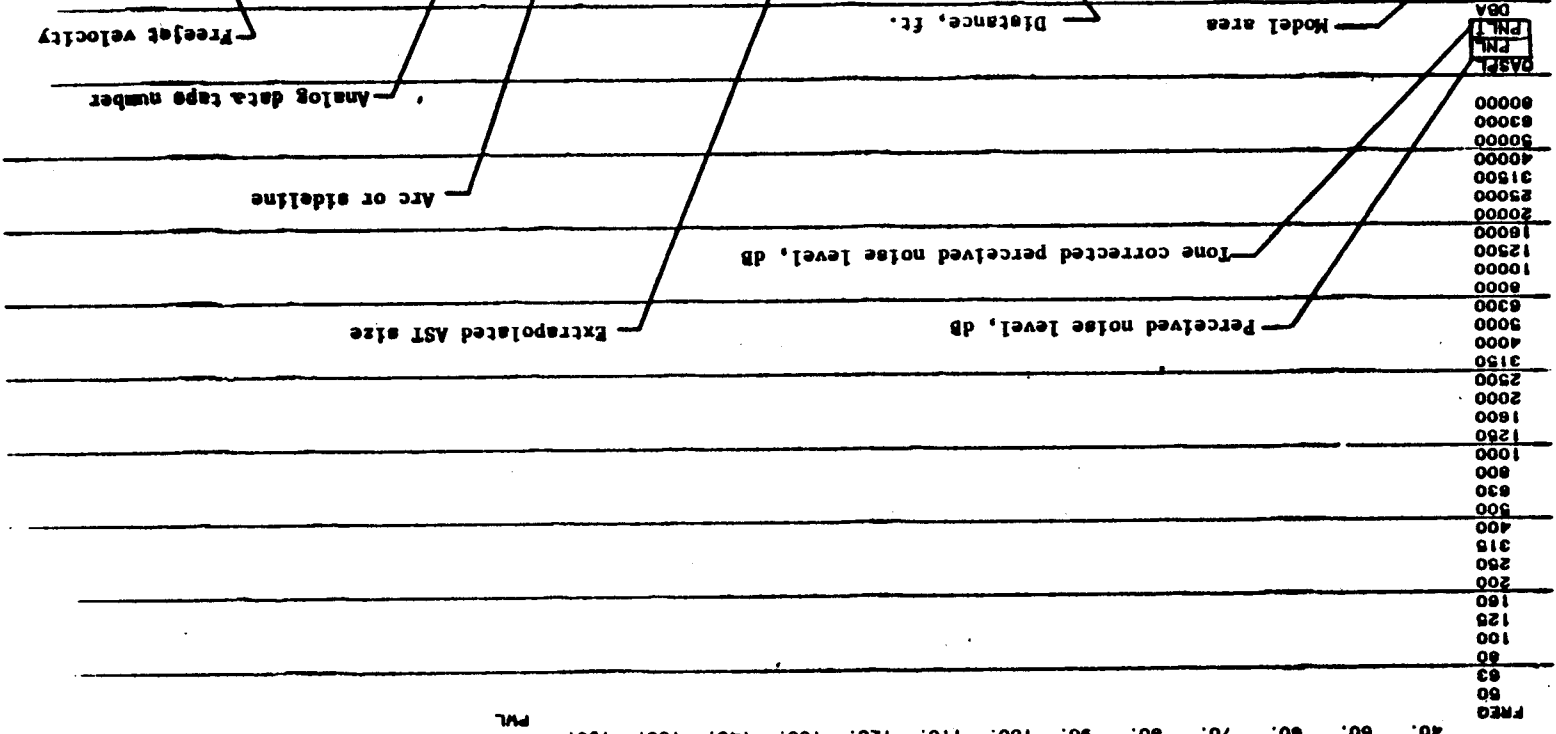
BATPROG - PLTRAN

PLIANT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
88.0 DEG. F., 70 PERCENT R.H. STD. DAY, 30 2400.0 FT. SL

IDENTIFICATION - BZF-400-0508 X05081

ANGLES MEASURED FROM INLET, DEGREES

40.	60.	80.	70.	60.	50.	100.	110.	120.	130.	140.	150.	160.
PWL												



MODEL AREA = 229.3 SQ CM (34.6 SQ IN)
SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)
DIAMETER RATIO = 0.360
PRESS SHIFT = 0

TREATED EJECTOR WITH MECH. SUPPRESSOR/CONFIC-5/NA53-23275

LOCAL - CA1 ANECH CH CONFIG
MODEL - 9L
FLYVEL - 400 F

IAPLHA • SB59 LEGA • NO EXT DIST • 2400.0 FT EXT CONFIG • SL MIKE HT • 23.75 NRFR • 1011

•	LF9 XNL	RPM	XNH	•	RPM	V6	•	FPS AEO	•	28.3 SO IN
•	LF9 XNL	RPM	XNR	•	RPM	V6	•	FPS AEO	•	9.3 SO IN

MONY - 827-200-0508 TAPE • X05081 TEST PT NO • 0808 MC • A0208 COMM PAN SPEED •

4.2 Acoustic Data of Model 1

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0103 X0103C
BACKGROUND 000000000000
ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.
50	83.9	85.2	84.2	83.5	85.6	82.0	85.9	84.8	87.5	92.6	94.2	93.4	93.0
63	87.0	89.5	91.5	91.1	90.9	89.3	93.7	88.1	92.3	92.9	95.7	94.4	95.8
80	89.3	93.8	93.1	91.1	90.7	91.3	91.5	93.4	94.1	93.9	98.3	98.2	99.1
100	88.1	93.8	88.6	93.7	94.0	93.1	92.5	96.4	96.6	97.2	98.8	102.5	103.4
125	85.4	88.4	89.4	93.4	94.0	93.4	92.5	93.9	95.9	98.5	104.9	106.3	107.5
160	85.3	85.8	87.1	89.1	89.7	89.8	92.0	92.9	95.1	100.2	104.8	107.5	110.1
200	88.0	87.8	86.8	90.6	92.0	92.1	92.7	95.9	100.8	103.2	107.8	111.0	112.6
250	86.8	90.6	88.6	92.1	91.7	92.3	93.7	97.9	101.3	108.1	112.8	114.7	114.1
315	86.6	90.4	87.9	92.2	94.0	94.1	94.8	97.9	104.4	109.9	114.3	115.4	119.6
400	88.8	91.9	89.4	93.4	94.0	93.6	96.0	98.9	106.6	113.7	117.3	117.0	115.4
500	89.9	92.7	89.7	93.3	95.4	95.7	96.1	100.8	108.2	116.3	118.9	116.6	114.5
630	92.0	94.6	95.4	96.2	96.8	97.7	103.1	110.6	119.4	120.1	117.2	115.4	154.6
800	95.7	95.5	94.0	97.3	98.4	98.2	99.4	104.5	113.2	121.3	120.7	117.6	155.9
1000	102.2	104.2	99.5	101.0	100.1	99.7	100.9	106.8	114.5	122.1	121.4	117.6	156.6
1250	103.2	106.2	104.3	105.3	104.6	102.5	102.9	108.0	115.3	122.1	123.2	117.9	157.5
1600	108.2	107.3	104.5	102.6	103.7	102.8	104.1	108.9	116.0	121.6	123.7	117.9	157.7
2000	110.6	111.3	106.5	106.6	103.9	102.3	104.3	109.1	115.5	121.5	119.5	114.3	156.1
2500	108.6	109.2	108.2	111.2	110.1	104.4	104.1	109.5	115.4	121.6	117.9	113.0	156.0
3150	106.0	107.8	105.8	110.1	111.7	109.0	105.4	110.8	114.2	119.4	115.4	109.7	155.4
4000	104.5	106.0	104.5	106.8	107.9	109.1	107.2	110.8	114.2	119.4	115.4	109.7	154.3
5000	103.0	104.8	103.1	106.3	106.5	106.2	108.4	110.4	113.7	117.5	114.6	108.1	153.2
6300	100.9	103.4	102.6	104.8	106.0	105.9	106.0	111.4	113.9	117.1	113.4	107.6	153.0
8000	99.6	100.8	100.8	105.4	105.2	104.9	110.5	112.3	111.4	115.5	110.7	104.6	152.1
10000	98.2	101.0	100.3	103.5	104.7	105.2	109.5	109.5	110.7	115.5	110.7	104.6	152.1
12500	96.1	98.7	98.2	101.4	103.4	103.2	107.2	109.0	112.5	109.2	104.4	98.7	150.6
16000	93.4	96.7	95.6	99.4	101.2	101.3	105.4	108.3	110.7	107.5	99.5	95.8	150.2
20000	90.4	94.2	92.8	96.6	98.3	99.1	99.2	102.8	105.2	108.7	104.9	97.0	149.5
25000	87.3	90.6	90.4	92.9	96.0	96.6	96.8	99.8	101.6	103.9	99.4	88.6	148.0
31500	83.1	87.2	86.0	89.7	92.2	92.6	92.8	96.4	98.5	102.6	96.7	84.0	148.4
40000	78.1	82.5	82.2	85.2	88.5	89.0	89.0	93.0	95.5	99.8	93.7	88.2	149.3
50000	73.9	78.5	77.2	80.0	83.2	84.5	83.6	87.7	92.6	95.0	89.8	82.4	149.3
63000	68.1	73.6	71.4	74.9	78.5	79.8	79.1	82.3	86.9	91.3	85.2	77.3	150.1
80000	62.5	67.3	66.1	68.8	73.1	74.4	72.8	78.3	82.5	88.0	80.8	72.5	152.9
GASPL	116.3	117.5	115.2	117.6	118.0	116.8	116.6	120.9	125.8	131.7	131.2	127.6	125.9
PNL	129.1	130.3	128.6	131.3	132.1	130.4	129.8	133.7	138.5	143.9	143.1	138.1	135.8
PNLT	129.1	131.4	128.6	132.5	133.8	130.4	129.8	133.7	138.5	143.9	143.1	138.1	135.8
DBA	117.1	118.1	115.7	118.0	118.2	116.7	116.3	120.7	125.9	131.8	131.1	126.6	124.3

NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH732 TEST DATE = 03-19-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVL = 0. FPS
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 44.00 MIKE HG = 29.55 RELHUM = 92.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC NBFR =

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RUNPT = 82F-ZER-0103 TAPE = X0103C TEST PT NO = 0103 NC = AE040 CORR FAN SPEED = RPM
FNINI = LBS XNLR = RPM XNH = RPM V8 = 2333.1 FPS AE8 = 20.4 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2333.1 FPS AE18 = 0. SQ IN

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0103 X0103F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

FREQ 63.9 65.2 64.2 63.5 65.6 62.0 65.9 64.8 67.5 62.6 64.2 63.4 63.0 130.6

50 63.9 65.2 64.2 63.5 65.6 62.0 65.9 64.8 67.5 62.6 64.2 63.4 63.0 130.6

63 67.0 69.5 91.5 91.1 90.9 89.3 93.7 88.1 92.3 92.9 95.7 94.4 95.8 134.1

80 89.3 93.8 88.3 91.1 90.7 91.3 91.5 93.4 94.1 93.2 98.3 99.1 135.9

100 88.1 93.8 88.6 93.7 94.0 93.1 92.5 96.4 96.6 97.2 98.8 102.5 103.4 138.4

125 85.4 88.4 89.4 93.4 94.0 93.4 92.5 93.9 95.9 98.5 104.9 106.3 107.5 141.0

160 85.3 85.8 87.1 89.1 89.7 89.8 92.0 92.9 95.1 100.2 104.8 107.5 110.1 142.0

200 88.0 87.8 86.8 90.6 92.0 92.1 92.7 95.9 100.8 103.2 107.8 111.0 112.6 145.0

250 86.8 90.6 88.6 92.1 91.7 92.3 93.7 97.9 101.3 108.1 112.8 114.7 114.1 148.3

315 86.6 90.4 87.9 92.2 94.0 94.1 94.8 97.9 104.4 109.9 114.3 115.3 115.4 149.6

400 88.8 91.9 89.4 93.4 94.0 93.6 96.0 98.9 106.6 113.7 117.0 115.4 151.8

500 89.9 92.7 89.7 93.3 95.4 95.7 96.1 100.8 108.2 116.3 118.9 116.6 114.5 152.9

630 92.0 94.6 91.4 95.4 96.2 96.8 97.7 103.1 110.6 119.4 120.1 117.2 115.4 154.6

800 95.7 95.5 94.0 97.3 98.4 98.2 99.4 104.5 113.2 121.3 120.7 117.6 115.3 156.9

1000 102.2 104.2 99.5 101.0 100.1 99.7 100.9 106.8 114.5 122.1 121.4 117.6 115.3 156.6

1250 103.2 106.2 104.3 105.3 104.6 102.5 102.9 108.0 115.3 122.1 123.2 118.4 115.9 157.5

1600 108.2 107.3 104.5 102.6 103.7 102.8 104.1 108.9 116.0 121.6 123.7 117.9 114.9 157.7

2000 110.6 111.3 106.5 106.6 103.9 102.3 104.3 109.1 115.5 121.5 119.5 114.3 111.8 156.1

2500 108.6 109.2 108.2 111.2 110.1 104.4 104.1 109.5 115.4 121.6 117.9 113.0 109.5 156.0

3150 106.0 107.8 105.8 110.1 111.7 109.0 105.4 109.9 115.4 120.3 117.3 111.2 108.7 155.4

4000 104.5 106.0 104.5 106.8 107.9 109.1 107.2 110.8 114.2 119.4 115.4 109.7 106.9 154.3

5000 103.0 104.6 103.1 106.3 108.4 110.4 113.7 117.5 113.4 108.1 104.6 106.6 153.2

6300 100.9 103.4 102.6 104.8 106.0 105.9 106.0 111.4 113.9 117.1 113.4 107.6 103.4 153.0

8000 99.6 102.0 100.8 104.2 105.4 104.9 110.0 112.3 115.6 112.1 105.1 102.2 152.0

10000 98.2 101.0 100.3 103.5 105.0 104.7 105.2 109.0 112.5 109.2 104.6 100.6 152.1

12500 96.1 98.7 98.2 101.4 103.4 103.2 103.2 107.2 109.5 111.4 104.6 100.6 150.6

16000 93.4 96.7 95.6 99.4 101.0 101.2 101.3 105.4 108.3 110.7 107.5 99.5 150.2

20000 90.4 94.2 92.8 96.6 98.3 99.1 99.2 102.8 105.2 108.7 104.9 97.0 149.5

25000 87.3 90.6 90.4 92.9 96.6 96.8 96.8 99.4 101.6 103.9 99.4 94.4 148.0

31500 83.1 87.2 86.0 89.7 92.2 92.6 92.8 96.4 98.5 102.6 96.7 90.7 148.4

40000 78.1 82.5 82.2 85.2 88.5 89.1 89.0 93.0 95.5 99.8 93.7 88.2 149.3

50000 73.9 78.5 77.2 80.0 83.2 84.5 83.6 87.7 92.6 95.0 89.8 82.4 149.3

63000 68.1 73.6 71.4 74.9 78.5 79.8 79.1 82.3 86.9 91.3 85.2 77.3 150.1

80000 62.5 67.3 66.1 68.8 73.1 74.4 72.8 78.3 82.5 88.0 80.8 72.5 152.9

GASPL 116.3 117.5 115.2 117.6 118.0 116.8 116.6 120.9 125.8 131.7 131.2 127.6 125.9 167.7

PNLT 129.1 131.4 128.6 132.5 133.8 130.4 129.8 133.7 138.5 143.9 143.1 138.1 135.8

DBA 184.4 189.3 187.9 190.8 194.8 196.1 194.9 199.7 204.0 209.1 202.2 194.1 183.0

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH732 TEST DATE = 03-19-82 LOCAL = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVL = 0. FPS
IAPLHA = SB59 LEA = NO PML AREA = FULL SPHERE TAMB F = 44.00 MIKE HT = 29.55 RELHUM = 92.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC NBFR =

FNINI = LBS XNL RPM XNH RPM V8 = 2333.1 FPS AE8 = 20.4 SQ IN
FNRAMB = LBS XNLR RPM XNHR RPM V8 = 2333.1 FPS AE8 = 20.4 SQ IN

RUNPT = ZER-0103 TAPE = X0103F TEST PT NO = 010: NC = AE040 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0103 X01031

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 67.8 72.3 70.9 75.7 76.7 81.2 88.2 94.2 96.3 93.7 88.8 170.1

63 68.8 73.2 71.3 75.5 78.0 78.5 78.8 83.0 86.7 93.8 87.9 171.3

80 70.9 75.0 72.8 77.6 78.8 79.6 80.3 85.3 92.1 99.8 93.9 173.0

100 74.5 75.8 75.4 79.4 80.9 81.9 86.7 94.7 101.6 99.5 94.1 174.3

125 80.8 84.5 80.8 83.1 82.6 82.4 83.4 88.9 95.8 102.3 100.1 175.0

160 81.7 86.3 85.5 87.2 85.9 84.4 86.3 90.7 97.1 101.5 102.0 176.0

200 86.4 87.1 85.6 84.4 85.9 85.1 86.3 90.7 97.1 101.5 102.0 176.0

250 88.5 90.9 87.2 88.2 85.9 84.4 86.3 90.7 96.2 101.1 97.4 174.5

315 86.1 88.4 88.7 92.5 91.8 86.3 86.3 90.7 96.2 101.1 97.4 174.5

400 83.0 86.7 86.0 91.1 93.1 90.6 86.8 90.8 95.6 99.1 94.2 173.7

500 81.0 84.5 84.3 87.5 89.1 90.4 88.4 91.5 94.0 97.8 91.9 172.7

630 79.0 82.5 86.7 87.4 87.3 89.2 90.8 93.1 95.6 90.6 81.0 171.6

1000 74.7 79.4 79.7 84.1 85.9 85.4 86.6 89.2 90.8 93.1 94.8 170.4

1250 72.8 78.1 79.0 83.3 85.4 85.6 86.6 89.2 90.1 92.6 85.2 170.4

1600 69.8 75.1 76.5 80.8 83.5 83.3 86.6 89.2 90.1 92.6 85.2 170.4

2000 66.2 72.5 73.5 78.6 80.9 81.4 84.6 86.6 86.6 86.6 80.3 168.6

2500 61.3 68.8 69.9 75.1 77.7 78.7 81.4 82.3 83.3 83.3 75.8 167.8

3150 54.8 62.8 65.5 69.9 74.0 74.9 76.8 76.8 76.1 66.9 54.2 166.3

4000 44.4 54.7 57.4 63.4 67.2 68.0 70.1 69.9 70.0 58.1 41.6 166.3

5000 29.7 42.5 47.3 53.5 58.5 59.7 59.0 61.3 60.6 59.7 45.3 167.7

6300 7.7 24.2 30.2 37.5 43.1 45.2 43.5 45.2 45.6 40.7 23.6 167.7

8000 3.1 13.2 20.3 22.7 20.9 20.6 18.6 12.2 168.4 171.3

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MODEL AREA = 131.5 SQ CM (20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9
NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH732 TEST DATE = 03-19-82 LOCAL = C41 ANECH CH CONFIG = 1 TAMB F = 44.00 PAMB HG = 29.55 FLTVEL = 0. FPS
IAPLHA = SB59 IE9A = NO EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR = 92.5 PCT

FNINI = LBS XNL RPM XNHR XNHN RPM V8 = 2333.1 FPS AE8 = 20.4 SQ IN
FNRAMB = LBS XNLR RPM XNHR XNHN RPM V8 = 2333.1 FPS AE8 = 20.4 SQ IN

RUNPT = 82F-ZER-0103 TAPE = X01031 TEST PT NO = 0103 NC = AE040 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0104 X0104C
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 87.0 87.1 82.8 88.7 89.3 86.4 88.8 87.4 89.4 98.5 96.9 94.2 95.6 134.0

63 88.4 92.0 95.0 92.2 90.0 92.0 92.2 94.1 99.8 99.2 95.3 96.9 136.7

80 89.6 93.2 87.5 91.3 91.0 91.0 90.8 92.6 93.5 96.7 96.8 98.6 135.5

100 87.4 92.0 87.2 91.6 92.1 91.8 91.4 94.8 94.3 95.9 96.7 101.2 137.0

125 86.5 87.8 88.1 91.8 93.0 92.1 91.0 91.9 93.4 96.4 104.8 106.6 139.5

150 84.5 87.3 85.3 88.6 90.2 90.1 91.5 93.6 99.9 106.7 111.1 112.8 146.4

175 83.7 86.5 84.2 88.1 88.6 88.7 89.4 93.6 97.3 104.4 108.8 111.5 144.8

200 84.9 85.5 84.0 87.5 89.1 88.5 89.1 92.8 97.3 99.9 104.5 108.7 142.4

225 84.2 85.2 86.5 86.7 88.3 89.0 88.3 89.0 92.0 98.4 102.3 105.0 139.7

250 84.9 85.5 84.0 87.5 89.1 88.5 89.1 92.8 97.3 99.9 104.5 108.7 142.4

275 84.5 87.3 85.3 88.6 90.2 90.1 91.5 93.6 99.9 106.7 111.1 112.8 146.4

300 86.3 88.1 85.8 89.6 90.7 90.1 92.0 95.1 101.9 109.7 113.8 113.8 148.0

325 86.9 88.9 87.0 91.0 92.1 91.9 92.6 97.3 104.0 112.6 115.9 113.6 149.4

350 86.0 91.1 88.6 92.6 94.2 93.1 94.7 99.6 106.6 115.9 117.1 113.0 151.0

375 87.0 90.7 90.5 94.3 96.1 95.5 96.4 101.5 109.0 117.8 118.9 111.1 152.5

400 91.2 90.7 90.5 94.3 96.1 95.5 96.4 101.5 109.0 117.8 118.9 111.1 152.5

425 94.7 96.2 94.2 97.6 97.6 96.5 98.1 103.5 111.0 119.1 119.4 110.6 153.5

450 98.5 102.2 99.0 100.5 99.6 99.0 98.4 105.0 112.3 119.6 119.7 110.7 154.0

475 107.5 105.8 102.0 101.6 99.9 99.6 99.6 106.7 113.3 119.9 121.0 110.7 155.0

500 108.1 110.3 107.5 107.1 103.4 101.0 101.0 106.8 113.7 120.5 120.5 111.6 155.4

525 108.1 110.3 107.5 107.1 103.4 101.0 101.0 106.8 113.7 120.5 120.5 111.6 155.4

550 108.1 110.3 107.5 107.1 103.4 101.0 101.0 106.8 113.7 120.5 120.5 111.6 155.4

575 108.1 110.3 107.5 107.1 103.4 101.0 101.0 106.8 113.7 120.5 120.5 111.6 155.4

600 108.1 110.3 107.5 107.1 103.4 101.0 101.0 106.8 113.7 120.5 120.5 111.6 155.4

625 108.1 110.3 107.5 107.1 103.4 101.0 101.0 106.8 113.7 120.5 120.5 111.6 155.4

650 108.1 110.3 107.5 107.1 103.4 101.0 101.0 106.8 113.7 120.5 120.5 111.6 155.4

675 108.1 110.3 107.5 107.1 103.4 101.0 101.0 106.8 113.7 120.5 120.5 111.6 155.4

700 108.1 110.3 107.5 107.1 103.4 101.0 101.0 106.8 113.7 120.5 120.5 111.6 155.4

725 108.1 110.3 107.5 107.1 103.4 101.0 101.0 106.8 113.7 120.5 120.5 111.6 155.4

750 108.1 110.3 107.5 107.1 103.4 101.0 101.0 106.8 113.7 120.5 120.5 111.6 155.4

775 108.1 110.3 107.5 107.1 103.4 101.0 101.0 106.8 113.7 120.5 120.5 111.6 155.4

800 108.1 110.3 107.5 107.1 103.4 101.0 101.0 106.8 113.7 120.5 120.5 111.6 155.4

825 108.1 110.3 107.5 107.1 103.4 101.0 101.0 106.8 113.7 120.5 120.5 111.6 155.4

850 108.1 110.3 107.5 107.1 103.4 101.0 101.0 106.8 113.7 120.5 120.5 111.6 155.4

875 108.1 110.3 107.5 107.1 103.4 101.0 101.0 106.8 113.7 120.5 120.5 111.6 155.4

900 108.1 110.3 107.5 107.1 103.4 101.0 101.0 106.8 113.7 120.5 120.5 111.6 155.4

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NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514
VEHICL = ADH745 TEST DATE = 03-19-82 LOCAT = C41 ANECH CH CNF1G = 1
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 44.00
WIND DIR = SB59 DEG WIND/VEL = MPH EXT DIST = 40.0 FT EXT CNF1G = ARC
FINI = LBS XNL RPM XNH RPM V8 = 2327.1 FPS AE8 = 20.4 SQ IN
FNRAMB = LBS XNLR = XNHR = RPM V18 = 2327.1 FPS AE18 = 20.4 SQ IN
RUNPT = 400-0104 TAPE = X0104C TEST PT NO = 0104 NC = AE040 CORR FAN SPEED = RPM

~~IDENTIFICATION - 82F-400-0104 X0104F~~

ANGLES MEASURED FROM INLET, DEGREES

FREQ

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

63

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| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 250 | 90.7 | 92.3 | 88.7 | 91.1 | 90.1 | 88.7 | 87.5 | 90.0 | 96.4 | 102.3 | 106.2 | 108.3 | 109.1 | 142.5 |
| 300 | 90.6 | 92.3 | 88.7 | 91.1 | 92.0 | 90.3 | 90.1 | 93.0 | 99.9 | 107.1 | 110.9 | 111.7 | 110.8 | 147.4 |
| 400 | 92.2 | 93.7 | 92.0 | 92.0 | 92.4 | 90.3 | 91.2 | 93.3 | 101.7 | 109.8 | 113.3 | 112.6 | 110.8 | 147.4 |
| 500 | 93.0 | 93.8 | 90.3 | 92.8 | 94.0 | 92.3 | 91.6 | 95.0 | 104.2 | 113.0 | 114.3 | 112.3 | 107.4 | 148.7 |
| 600 | 94.6 | 95.4 | 91.9 | 94.5 | 96.2 | 93.5 | 93.6 | 97.2 | 106.9 | 116.6 | 111.4 | 112.4 | 108.9 | 150.1 |
| 800 | 95.7 | 97.5 | 93.6 | 96.1 | 98.2 | 96.0 | 95.3 | 99.1 | 109.4 | 117.1 | 117.9 | 112.4 | 111.4 | 152.1 |
| 1000 | 98.8 | 97.2 | 95.5 | 97.8 | 99.4 | 97.1 | 97.2 | 101.3 | 111.0 | 118.0 | 118.7 | 113.0 | 114.3 | 153.1 |
| 1250 | 100.3 | 101.2 | 98.3 | 100.8 | 101.4 | 99.8 | 97.7 | 103.0 | 112.2 | 118.5 | 120.1 | 113.2 | 114.7 | 154.1 |
| 1600 | 104.4 | 107.1 | 102.8 | 103.3 | 102.1 | 100.8 | 100.2 | 104.9 | 113.1 | 119.6 | 120.2 | 114.8 | 116.6 | 155.1 |
| 2000 | 115.0 | 112.1 | 107.1 | 105.2 | 102.3 | 100.9 | 105.4 | 113.1 | 119.6 | 118.3 | 113.8 | 113.8 | 116.2 | 155.2 |
| 2500 | 115.2 | 116.2 | 112.1 | 110.4 | 111.4 | 105.5 | 102.3 | 106.7 | 114.2 | 118.3 | 118.0 | 113.9 | 115.2 | 155.9 |
| 3000 | 111.1 | 113.6 | 111.2 | 114.1 | 113.7 | 110.0 | 105.3 | 107.0 | 114.4 | 118.2 | 115.9 | 114.4 | 115.5 | 155.9 |
| 4000 | 111.1 | 112.5 | 110.4 | 110.1 | 110.4 | 107.7 | 109.7 | 113.8 | 116.5 | 115.0 | 110.8 | 112.8 | 115.7 | 155.9 |
| 5000 | 108.6 | 110.5 | 109.7 | 109.2 | 108.8 | 107.2 | 107.6 | 109.7 | 114.5 | 115.9 | 113.3 | 109.0 | 110.5 | 153.0 |
| 6000 | 108.6 | 110.5 | 109.7 | 109.2 | 108.8 | 107.2 | 107.6 | 109.7 | 114.5 | 115.9 | 113.3 | 109.0 | 110.5 | 153.0 |
| 8000 | 107.0 | 109.2 | 107.0 | 108.5 | 108.0 | 106.7 | 105.4 | 109.3 | 113.0 | 114.2 | 108.6 | 108.6 | 115.2 | 152.7 |
| 10000 | 106.2 | 107.7 | 105.1 | 107.2 | 105.8 | 104.9 | 103.5 | 107.2 | 110.3 | 112.0 | 109.2 | 105.5 | 115.2 | 152.0 |
| 12500 | 104.4 | 106.4 | 104.8 | 106.3 | 105.5 | 104.9 | 103.5 | 105.5 | 108.1 | 108.2 | 103.6 | 105.1 | 151.3 | 150.6 |
| 15000 | 101.5 | 103.8 | 102.1 | 103.9 | 103.3 | 103.0 | 101.9 | 105.5 | 108.1 | 108.5 | 106.1 | 101.0 | 150.6 | 150.6 |
| 20000 | 98.4 | 100.6 | 98.7 | 101.3 | 101.4 | 100.1 | 99.2 | 102.4 | 105.1 | 105.3 | 101.4 | 100.1 | 149.3 | 149.3 |
| 25000 | 97.5 | 99.1 | 96.5 | 98.2 | 98.1 | 97.6 | 96.3 | 99.4 | 102.1 | 103.4 | 98.8 | 96.6 | 149.1 | 149.1 |
| 30000 | 93.1 | 94.7 | 93.0 | 94.3 | 93.3 | 92.7 | 93.5 | 99.1 | 101.7 | 101.4 | 96.4 | 92.7 | 149.1 | 149.1 |
| 35000 | 87.8 | 90.5 | 87.8 | 89.7 | 90.6 | 89.1 | 88.5 | 90.8 | 94.9 | 97.0 | 92.4 | 88.0 | 85.8 | 148.6 |
| 40000 | 83.2 | 88.9 | 83.1 | 84.3 | 85.0 | 84.5 | 82.9 | 85.8 | 90.6 | 93.3 | 87.7 | 82.6 | 79.3 | 148.4 |
| 45000 | 76.8 | 78.9 | 76.4 | 77.9 | 78.5 | 77.4 | 75.4 | 80.1 | 86.4 | 90.9 | 85.5 | 77.4 | 74.0 | 147.9 |
| 50000 | 68.7 | 71.5 | 68.3 | 70.6 | 73.2 | 71.8 | 69.7 | 73.8 | 76.6 | 81.1 | 75.7 | 67.6 | 64.2 | 147.7 |

ASPL 121.2 122.0 118.9 120.3 119.6 117.5 115.8 119.1 124.4 128.7 128.6 124.1 124.9 166.2

PNLT 135.7 136.2 131.5 133.6 133.1 130.4 128.3 131.1 136.7 140.8 140.1 135.9 137.0

[illegible]

11200 00000 1 007 XV/EDN 01000000 00107 11200 00000 00

TEST DATE - 09-19-93

PLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 44.0
 EXT DIST = 49.9 FT EXT DIST = 49.9 FT EXT DIST = 49.9 FT

[illegible]

RAMB = LBS XNLR = RPM XNHRR = RPM V18 " FF

NPT = 82F-400-0104 TAPE = X0104F TEST PT NB = 0104 NC = AE040

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0104 X01041

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL |
|---|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 71.1 | 74.1 | 71.8 | 74.3 | 75.1 | 73.1 | 73.8 | 75.6 | 83.3 | 90.3 | 92.3 | 89.4 | 82.2 | 165.8 |
| 63 | 71.9 | 74.2 | 71.8 | 75.0 | 76.6 | 75.0 | 74.2 | 77.3 | 85.8 | 93.5 | 93.2 | 89.0 | 80.7 | 167.0 |
| 80 | 73.4 | 75.7 | 73.4 | 76.7 | 78.8 | 76.2 | 79.4 | 88.4 | 95.7 | 95.5 | 88.0 | 82.2 | 168.9 | |
| 100 | 74.5 | 77.8 | 75.0 | 78.3 | 80.7 | 78.7 | 77.9 | 81.3 | 90.8 | 97.4 | 96.7 | 88.9 | 84.5 | 170.5 |
| 125 | 77.5 | 77.4 | 76.9 | 79.9 | 81.9 | 79.7 | 79.7 | 83.4 | 92.3 | 98.2 | 97.3 | 89.4 | 87.1 | 171.5 |
| 160 | 78.8 | 81.3 | 79.5 | 82.7 | 83.7 | 82.3 | 80.1 | 85.0 | 93.4 | 98.6 | 98.6 | 89.3 | 87.2 | 172.5 |
| 200 | 82.6 | 87.0 | 83.8 | 85.0 | 84.3 | 83.2 | 82.4 | 86.7 | 94.1 | 99.5 | 98.5 | 90.6 | 88.6 | 173.4 |
| 250 | 92.9 | 91.7 | 87.9 | 86.7 | 84.5 | 82.9 | 87.0 | 93.9 | 99.2 | 99.2 | 89.2 | 87.5 | 173.6 | |
| 315 | 92.7 | 95.5 | 92.6 | 91.7 | 93.1 | 87.4 | 84.1 | 87.9 | 94.7 | 97.5 | 95.4 | 88.7 | 174.2 | |
| 400 | 88.0 | 92.5 | 91.3 | 88.5 | 91.6 | 86.7 | 88.0 | 94.6 | 97.1 | 92.8 | 85.5 | 83.0 | 173.9 | |
| 500 | 87.6 | 90.9 | 89.2 | 89.3 | 91.7 | 88.8 | 90.4 | 93.6 | 95.0 | 91.5 | 84.4 | 81.3 | 173.0 | |
| 630 | 86.8 | 89.8 | 88.5 | 89.6 | 89.7 | 88.3 | 88.5 | 90.1 | 93.9 | 94.0 | 89.2 | 81.9 | 172.2 | |
| 800 | 84.2 | 88.2 | 86.8 | 89.8 | 89.2 | 88.0 | 87.1 | 90.8 | 92.4 | 91.3 | 88.0 | 79.5 | 171.3 | |
| 1000 | 82.0 | 86.6 | 85.9 | 88.4 | 88.5 | 87.4 | 85.9 | 89.2 | 92.0 | 91.6 | 86.2 | 78.1 | 171.1 | |
| 1250 | 80.8 | 84.7 | 83.8 | 87.0 | 86.8 | 86.1 | 89.0 | 90.2 | 89.0 | 83.8 | 76.1 | 70.7 | 170.4 | |
| 1500 | 78.0 | 82.8 | 83.0 | 85.7 | 85.5 | 85.2 | 83.6 | 86.7 | 88.6 | 86.7 | 81.8 | 72.9 | 169.7 | |
| 2000 | 74.2 | 79.6 | 80.0 | 83.1 | 83.2 | 83.1 | 81.8 | 84.7 | 86.0 | 84.4 | 78.8 | 68.7 | 168.9 | |
| 2500 | 69.3 | 75.3 | 75.7 | 79.8 | 80.8 | 79.7 | 78.6 | 80.9 | 82.1 | 79.9 | 72.4 | 64.9 | 167.7 | |
| 3150 | 65.1 | 71.3 | 71.6 | 75.1 | 76.1 | 75.9 | 74.3 | 76.3 | 77.2 | 75.6 | 66.4 | 56.4 | 167.5 | |
| 4000 | 54.4 | 62.2 | 64.3 | 68.0 | 69.3 | 68.8 | 67.7 | 69.2 | 70.4 | 69.1 | 57.8 | 43.6 | 167.4 | |
| 5000 | 39.4 | 50.4 | 50.0 | 58.0 | 59.7 | 58.5 | 59.1 | 60.0 | 60.0 | 56.9 | 43.9 | 25.2 | 167.0 | |
| 6300 | 17.0 | 30.0 | 30.0 | 36.1 | 41.8 | 44.9 | 45.2 | 42.8 | 43.3 | 43.6 | 39.0 | 21.5 | 166.8 | |
| 8000 | | | | | | | | | | | | | 168.3 | |
| 10000 | | | | | | | | | | | | | 166.3 | |
| 12500 | | | | | | | | | | | | | | |
| 15000 | | | | | | | | | | | | | | |
| 20000 | | | | | | | | | | | | | | |
| 25000 | | | | | | | | | | | | | | |
| 31500 | | | | | | | | | | | | | | |
| 40000 | | | | | | | | | | | | | | |
| 50000 | | | | | | | | | | | | | | |
| 63000 | | | | | | | | | | | | | | |
| 80000 | | | | | | | | | | | | | | |
| OASPL | 98.1 | 100.6 | 98.7 | 100.9 | 100.8 | 98.7 | 99.5 | 104.4 | 108.1 | 106.5 | 99.3 | 95.9 | 184.5 | |
| PWL | 103.3 | 106.7 | 104.9 | 107.9 | 108.1 | 106.0 | 104.2 | 107.0 | 110.5 | 112.6 | 109.8 | 102.0 | 98.4 | |
| PWL | 104.2 | 107.3 | 105.6 | 108.4 | 108.1 | 106.5 | 104.2 | 107.5 | 111.0 | 113.1 | 109.8 | 102.0 | 98.4 | |
| DBA | 93.3 | 96.6 | 95.4 | 98.1 | 97.8 | 96.4 | 94.8 | 97.5 | 100.4 | 101.2 | 97.7 | 90.1 | 87.1 | |
| MODEL AREA = 131.5 SQ CM (20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9 | | | | | | | | | | | | | | |
| NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514 | | | | | | | | | | | | | | |
| VEHICL | = ADH745 | | | | | | | | | | | | | |
| IAPLHA | = SB59 | | | | | | | | | | | | | |
| WIND DIR | = DEG | | | | | | | | | | | | | |
| WIND VEL | = MPH | | | | | | | | | | | | | |
| EXT DIST | = 2400.0 FT | | | | | | | | | | | | | |
| EXT CNF10 | = SL | | | | | | | | | | | | | |
| MIKE HT | = | | | | | | | | | | | | | |
| NBFR | = | | | | | | | | | | | | | |
| FLTVEL | = 400. FPS | | | | | | | | | | | | | |
| RELHUM | = 92.5 PCT | | | | | | | | | | | | | |
| MODEL | = AX | | | | | | | | | | | | | |
| PAMB HG | = 29.55 | | | | | | | | | | | | | |
| CONF10 | = 1 | | | | | | | | | | | | | |
| TAMB F | = 44.00 | | | | | | | | | | | | | |
| EXT CNF10 | = | | | | | | | | | | | | | |
| V8 | = 2327.1 FPS | | | | | | | | | | | | | |
| AE8 | = | | | | | | | | | | | | | |
| AE18 | = | | | | | | | | | | | | | |
| 0.4 SQ IN | = | | | | | | | | | | | | | |
| RPM | = | | | | | | | | | | | | | |
| XNHR | = | | | | | | | | | | | | | |
| TEST PT NO | = 0104 | | | | | | | | | | | | | |
| NC | = AE040 | | | | | | | | | | | | | |
| CORR FAN SPEED | = | | | | | | | | | | | | | |
| RPM | = | | | | | | | | | | | | | |
| RUNPT | = 00-0104 TAPE | | | | | | | | | | | | | |
| X01041 | = | | | | | | | | | | | | | |

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0105 X0105C
BACKGROUND X79F100B0400

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|---|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 84.7 | 85.7 | 84.2 | 86.0 | 86.4 | 83.2 | 83.6 | 84.5 | 88.5 | 92.6 | 91.4 | 95.1 | 130.7 |
| 63 | 87.5 | 92.3 | 92.3 | 92.8 | 91.2 | 89.5 | 92.9 | 87.3 | 92.8 | 91.6 | 93.2 | 96.9 | 134.4 |
| 80 | 89.8 | 94.6 | 89.3 | 92.1 | 91.0 | 91.6 | 93.0 | 91.5 | 93.9 | 95.3 | 97.5 | 99.2 | 136.3 |
| 100 | 88.3 | 94.3 | 89.4 | 94.2 | 93.4 | 93.0 | 96.7 | 96.6 | 97.2 | 98.6 | 103.0 | 103.4 | 138.6 |
| 125 | 86.1 | 89.4 | 90.2 | 93.9 | 94.3 | 93.7 | 92.8 | 93.9 | 96.2 | 98.0 | 104.9 | 107.5 | 141.2 |
| 160 | 85.8 | 86.1 | 88.1 | 90.1 | 90.5 | 90.3 | 91.5 | 92.9 | 95.6 | 100.4 | 104.5 | 107.7 | 141.9 |
| 200 | 87.5 | 88.6 | 87.3 | 91.6 | 92.5 | 92.6 | 93.0 | 95.6 | 100.6 | 103.2 | 107.8 | 111.2 | 145.0 |
| 250 | 87.8 | 91.1 | 89.6 | 92.6 | 93.1 | 94.2 | 98.6 | 101.6 | 107.9 | 112.5 | 115.0 | 114.6 | 148.5 |
| 315 | 87.6 | 91.1 | 88.9 | 92.2 | 94.5 | 94.9 | 95.8 | 98.4 | 104.6 | 109.9 | 114.8 | 116.3 | 150.2 |
| 400 | 89.8 | 92.9 | 90.4 | 93.7 | 95.0 | 93.9 | 96.5 | 99.9 | 107.1 | 114.2 | 117.1 | 117.5 | 151.9 |
| 500 | 90.9 | 93.5 | 90.5 | 94.8 | 96.1 | 96.2 | 96.6 | 102.0 | 109.2 | 116.6 | 119.4 | 117.9 | 153.5 |
| 630 | 92.5 | 95.3 | 96.3 | 97.2 | 97.8 | 99.2 | 100.9 | 106.0 | 115.0 | 121.6 | 120.7 | 118.6 | 156.3 |
| 800 | 96.4 | 96.0 | 94.2 | 98.8 | 98.6 | 99.2 | 100.9 | 106.0 | 115.0 | 121.6 | 120.7 | 118.6 | 156.3 |
| 1000 | 101.4 | 103.2 | 99.5 | 101.8 | 101.1 | 101.0 | 102.1 | 108.3 | 116.2 | 122.1 | 120.7 | 118.9 | 156.8 |
| 1250 | 108.7 | 110.7 | 105.8 | 106.7 | 104.8 | 105.9 | 104.9 | 109.7 | 117.3 | 121.9 | 122.5 | 117.7 | 159.4 |
| 1500 | 109.7 | 110.7 | 108.3 | 105.8 | 103.8 | 104.4 | 103.0 | 104.9 | 109.7 | 117.3 | 121.9 | 117.7 | 159.4 |
| 2000 | 110.6 | 111.8 | 108.0 | 108.6 | 105.9 | 103.0 | 105.0 | 110.1 | 116.7 | 122.0 | 118.8 | 115.1 | 156.5 |
| 2500 | 108.6 | 109.4 | 108.0 | 112.5 | 112.6 | 106.9 | 104.9 | 110.5 | 116.4 | 121.6 | 118.7 | 114.5 | 156.6 |
| 3150 | 107.0 | 108.6 | 111.9 | 109.6 | 110.3 | 107.1 | 110.4 | 116.4 | 120.8 | 117.5 | 119.9 | 115.6 | 155.9 |
| 4000 | 105.2 | 107.0 | 105.8 | 107.8 | 108.1 | 109.6 | 108.7 | 112.1 | 115.7 | 119.9 | 115.6 | 111.2 | 155.1 |
| 5000 | 103.7 | 105.5 | 103.8 | 107.1 | 107.0 | 106.5 | 109.1 | 110.9 | 114.7 | 118.0 | 114.9 | 109.9 | 153.9 |
| 6300 | 101.9 | 104.6 | 103.3 | 105.8 | 106.7 | 106.9 | 107.5 | 112.4 | 117.6 | 113.6 | 108.6 | 104.4 | 153.7 |
| 8000 | 100.4 | 103.0 | 101.6 | 106.2 | 106.0 | 105.7 | 111.0 | 113.8 | 116.3 | 112.3 | 107.8 | 102.9 | 152.9 |
| 10000 | 99.5 | 102.3 | 101.3 | 104.3 | 106.0 | 105.5 | 106.0 | 110.0 | 112.6 | 116.0 | 110.9 | 105.4 | 152.8 |
| 12500 | 96.9 | 100.2 | 99.2 | 101.9 | 104.4 | 104.2 | 104.2 | 108.2 | 113.8 | 109.7 | 103.7 | 99.4 | 151.7 |
| 16000 | 94.7 | 97.7 | 96.4 | 100.2 | 101.8 | 102.2 | 102.6 | 106.2 | 109.5 | 111.2 | 108.0 | 100.8 | 151.0 |
| 20000 | 91.9 | 95.4 | 93.8 | 97.6 | 99.8 | 99.6 | 100.7 | 103.8 | 107.0 | 109.9 | 105.1 | 98.8 | 150.7 |
| 25000 | 88.8 | 92.1 | 91.1 | 93.7 | 96.5 | 97.4 | 97.5 | 100.6 | 102.6 | 104.6 | 99.4 | 95.9 | 148.7 |
| 31500 | 84.8 | 88.2 | 87.8 | 91.0 | 93.0 | 93.3 | 93.8 | 97.4 | 99.3 | 102.6 | 97.0 | 91.4 | 148.9 |
| 40000 | 79.6 | 84.0 | 84.4 | 86.7 | 89.5 | 90.1 | 90.7 | 94.0 | 96.2 | 100.0 | 94.2 | 87.5 | 150.0 |
| 50000 | 74.9 | 79.5 | 78.7 | 81.7 | 85.2 | 85.5 | 85.6 | 89.2 | 92.4 | 95.3 | 89.6 | 82.9 | 149.7 |
| 63000 | 69.1 | 75.1 | 72.9 | 76.2 | 80.0 | 81.0 | 80.6 | 84.1 | 88.1 | 91.3 | 85.2 | 77.3 | 150.7 |
| 80000 | 63.8 | 69.5 | 68.8 | 70.3 | 74.3 | 75.1 | 74.1 | 78.8 | 83.8 | 88.0 | 81.3 | 71.7 | 153.4 |
| QASPL | 117.3 | 118.5 | 116.4 | 118.4 | 119.0 | 117.7 | 117.8 | 121.8 | 127.2 | 132.1 | 131.4 | 128.6 | 126.5 |
| PNL | 129.6 | 133.2 | 131.2 | 133.9 | 134.0 | 131.4 | 131.0 | 134.7 | 139.6 | 144.2 | 143.5 | 139.1 | 136.4 |
| DBA | 118.1 | 119.1 | 116.9 | 118.8 | 119.3 | 117.7 | 117.5 | 121.6 | 127.3 | 132.3 | 131.3 | 127.7 | 125.2 |
| NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514 | | | | | | | | | | | | | |
| VEHICL | = ADH733 | | | | | | | | | | | | |
| TEST DATE | = 03-19-82 | | | | | | | | | | | | |
| LOCAT | = C41 ANECH CH | | | | | | | | | | | | |
| CNCFG | = 1 | | | | | | | | | | | | |
| TAMB F | = 44.00 | | | | | | | | | | | | |
| EXT CNFIG | = ARC | | | | | | | | | | | | |
| MIKE HT | = 29.55 | | | | | | | | | | | | |
| PAMB HG | = 44.00 | | | | | | | | | | | | |
| RELHUM | = 92.5 PCT | | | | | | | | | | | | |
| FLVEL | = 0. FPS | | | | | | | | | | | | |
| FNIN1 | = | | | | | | | | | | | | |
| LBS XNL | = | | | | | | | | | | | | |
| RPM | = | | | | | | | | | | | | |
| XNHR | = | | | | | | | | | | | | |
| RPM | = | | | | | | | | | | | | |
| V8 | = 2354.2 FPS | | | | | | | | | | | | |
| AE8 | = | | | | | | | | | | | | |
| AE18 | = | | | | | | | | | | | | |
| 0. SO IN | = | | | | | | | | | | | | |
| 20.4 SO IN | = | | | | | | | | | | | | |
| CGRR FAN SPEED | = | | | | | | | | | | | | |
| AE040 | = | | | | | | | | | | | | |
| NC | = | | | | | | | | | | | | |
| TEST PT NO | = 0105 | | | | | | | | | | | | |
| RUNPT | = 82F-ZER-0105 TAPE | | | | | | | | | | | | |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0105 X0105F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 64.7 65.7 64.2 66.0 66.4 63.2 63.6 64.5 68.5 92.6 91.4 95.1 93.5 130.7
63 67.5 62.3 62.3 62.8 61.2 89.5 92.9 87.3 92.8 91.6 93.2 96.9 96.6 134.4
80 69.6 64.6 69.3 62.1 91.0 91.5 93.9 93.2 97.5 99.2 100.1 136.3
100 68.3 64.3 69.4 64.2 94.2 93.4 93.0 96.7 96.6 97.2 98.6 103.0 103.4 138.6
125 66.1 69.4 60.2 93.9 94.3 93.7 92.8 93.9 96.2 98.0 104.9 106.8 107.5 141.2
150 65.8 66.1 68.1 60.1 90.5 90.3 91.5 92.9 95.6 100.4 104.5 107.7 109.9 141.9
200 67.5 66.6 67.3 61.6 92.5 92.6 93.0 95.6 100.6 103.2 107.8 111.2 112.4 145.0
250 67.6 67.8 69.1 69.6 92.6 92.5 93.1 94.2 98.6 101.6 107.9 112.5 115.0 148.5
315 67.6 69.1 68.9 92.2 94.5 94.9 95.8 98.4 104.6 109.9 114.8 116.3 116.2 150.2
400 69.6 69.8 69.9 92.9 93.7 95.0 96.5 99.9 107.1 114.2 117.1 117.5 115.2 151.9
500 90.9 93.5 90.5 94.8 96.1 96.2 96.6 102.0 109.2 116.6 119.4 117.9 115.0 153.5
630 92.5 95.3 92.4 96.6 97.2 97.8 99.2 104.1 112.4 119.2 120.1 118.2 115.4 154.8
800 96.4 94.2 98.8 99.2 100.9 106.0 115.0 121.6 120.7 118.6 116.5 116.5 156.3
1000 101.4 103.2 99.5 101.8 101.1 101.0 102.1 108.3 116.2 122.1 120.7 118.9 115.8 156.8
1250 108.7 110.7 109.0 105.8 106.1 104.8 105.9 109.0 117.5 123.6 125.2 120.1 118.4 159.4
1500 109.7 108.3 105.8 103.8 104.4 103.0 104.9 109.7 117.3 121.9 122.5 117.7 115.4 157.5
2000 110.6 111.8 108.6 105.9 103.0 105.0 110.1 116.7 122.0 118.8 115.1 111.8 111.8 156.5
2500 108.6 109.4 108.0 112.5 112.6 106.9 104.9 110.5 116.4 121.6 118.7 114.5 111.0 156.6
3150 107.0 108.1 106.3 109.6 111.9 110.3 107.1 110.4 116.4 120.8 117.5 112.7 109.4 155.9
4000 105.2 107.0 105.8 107.8 108.7 112.1 119.7 119.9 115.6 111.2 107.9 155.1
5000 103.7 105.5 103.8 107.1 107.0 106.5 109.1 110.9 114.7 118.0 109.9 105.6 153.9
6300 101.9 104.6 103.3 105.8 106.7 107.5 112.4 114.4 117.6 113.6 108.6 104.4 153.7
8000 100.4 103.0 101.6 104.7 106.2 106.0 105.7 111.0 113.8 116.3 112.3 107.8 152.9
10000 99.5 100.2 101.3 104.3 106.0 105.5 106.0 110.0 112.6 116.0 110.9 105.4 152.8
12500 96.9 102.2 99.2 101.9 104.4 104.2 104.2 108.2 110.8 113.8 109.7 103.7 151.7
15000 94.7 97.7 96.4 100.2 101.8 102.2 102.6 106.2 109.5 111.2 108.0 100.8 151.0
20000 91.9 95.4 93.8 97.6 99.6 100.7 103.8 107.0 109.9 105.1 98.8 92.7 150.7
25000 88.8 92.1 91.1 93.7 96.5 97.4 97.5 100.6 102.6 104.6 99.4 88.6 148.7
31500 84.8 86.2 87.8 89.0 93.0 93.8 97.4 99.3 97.4 99.3 97.0 84.7 148.9
40000 79.6 84.0 84.4 86.7 89.5 90.1 90.7 94.0 96.2 100.0 94.2 87.5 150.0
50000 74.9 79.5 78.7 81.7 85.2 85.5 86.2 89.2 92.4 95.3 85.2 77.3 150.7
63000 69.1 75.1 72.9 76.2 80.0 81.0 80.6 84.1 88.1 91.3 85.2 71.3 150.7
80000 63.8 69.5 68.8 70.3 74.3 75.1 74.1 78.8 83.8 86.0 81.3 71.7 153.4

DBA 185.6 191.3 190.3 192.3 196.2 197.0 196.2 200.5 205.1 209.1 202.6 193.6 188.0
PNLT 129.6 131.0 129.1 132.3 132.7 131.4 131.0 134.7 139.6 144.2 143.5 139.1 136.4
GASPL 117.3 118.5 116.4 118.4 119.0 117.7 117.8 121.8 127.2 132.1 131.4 128.6 126.5 168.3

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH733 TEST DATE = 03-19-82 LOCAL = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVL = 0. FPS
IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 44.00 MIKE HT = 29.55 RELHUM = 92.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC NBFR =

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OF POOR QUALITY

RUNPT = 82 R-0105 TAPE = X0105F TEST PT NO = 0105 NC = AE040 CORR FAN SPEED = RPM
FNIN1 = LBS XNLR RPM XNHR RPM V8 = 2354.2 FPS AE8 = 20.4 SQ IN
FNRAMB = LBS XNLR RPM XNHR RPM V8 = 2354.2 FPS AE8 = 20.4 SQ IN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0105 X01051

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 68.8 73.3 71.9 75.9 77.7 76.7 79.2 82.2 88.7 94.7 96.0 94.2 88.6 170.3

63 69.8 73.9 72.0 77.0 79.8 79.3 84.3 93.8 93.8 97.0 98.3 94.6 88.4 171.9

80 71.4 75.7 73.8 78.8 79.8 80.6 81.8 86.3 93.8 99.6 98.9 94.9 88.6 173.2

100 75.2 76.3 75.7 80.9 81.2 81.9 83.4 88.2 96.4 101.9 99.5 95.1 89.6 174.7

125 80.1 83.5 80.8 83.9 83.6 84.6 90.4 97.6 102.3 99.4 95.2 88.6 175.2

150 87.2 90.8 90.2 87.7 88.5 87.3 88.3 91.0 98.7 103.7 103.7 96.3 90.9 177.8

200 87.9 88.1 86.8 85.6 86.6 85.4 87.1 91.5 98.3 101.7 100.7 93.5 87.4 175.9

250 88.5 91.4 88.7 90.2 87.9 85.2 87.0 91.7 97.5 101.6 96.6 90.5 83.2 174.9

315 86.1 88.7 88.4 93.8 94.3 88.8 86.6 91.8 96.8 100.9 96.1 89.3 81.5 175.0

400 84.0 86.9 86.5 90.6 93.4 91.9 88.6 91.3 96.6 99.6 94.5 86.8 79.0 174.3

500 81.7 85.5 85.5 86.5 89.3 90.9 89.9 92.7 95.5 98.3 92.1 84.7 76.5 173.4

630 79.7 83.6 83.3 87.5 87.9 87.5 90.0 91.3 94.1 96.1 90.9 82.7 73.2 172.2

800 77.4 82.5 82.5 87.4 87.8 88.1 92.5 93.6 95.3 89.1 80.8 70.7 172.0

1000 75.4 80.4 80.5 84.6 86.7 86.7 86.2 91.0 92.7 93.7 87.4 79.3 68.2 171.3

1250 74.1 79.3 80.0 84.0 86.4 86.0 86.4 89.7 91.3 93.1 85.5 76.0 65.7 171.1

1600 70.6 76.6 77.5 81.3 84.5 84.5 84.3 87.6 89.1 90.2 83.4 73.0 60.8 170.0

2000 67.4 73.5 74.3 79.4 81.7 82.4 82.5 85.4 87.4 87.1 80.8 68.5 53.9 169.4

2500 62.8 66.3 64.3 66.3 70.7 74.5 75.7 75.5 77.6 77.8 76.8 66.9 55.7 167.1

3150 56.3 56.3 64.3 66.3 70.7 74.5 75.7 75.5 77.6 77.8 76.8 66.9 55.7 167.1

4000 46.1 55.7 59.1 64.7 68.0 68.8 68.8 71.1 70.6 70.0 58.3 42.4 24.7 168.3

5000 31.2 44.0 49.5 55.0 59.5 60.7 60.7 62.3 61.3 60.0 45.8 23.3 168.1

6300 8.7 25.2 31.7 39.2 45.1 46.2 45.5 46.7 45.4 41.0 23.3 169.1

8000 4.6 14.4 21.8 24.0 22.4 22.4 22.3 19.8 12.2 169.1

10000 12500 15000

20000 25000 31500 40000 50000 63000 80000

QASPL 94.9 97.7 96.7 99.3 100.3 99.0 98.9 102.5 107.6 111.6 109.4 103.9 97.8 186.6

PWL 98.8 102.5 101.6 105.8 107.1 106.3 105.9 109.2 112.8 115.7 112.3 105.0 98.0

PFLT 98.8 103.6 102.7 106.6 107.7 106.3 105.9 109.2 113.3 116.2 113.4 105.0 98.0

DBA 87.9 91.5 91.2 94.9 96.4 95.9 95.8 99.2 101.9 104.2 99.4 91.9 84.5

MODEL AREA = 131.5 SQ CM (20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH733 TEST DATE = 03-19-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS

IAPLHA = SB59 IEQA, = NO MPH EXT DIST = 2400.0 FT PML AREA = FULL SPHERE TAMB F = 44.00 PAMB HG = 29.55 RELHUM = 92.5 PCT

WIND DIR = DEG WIND VEL = RPM XNL LBS XNLR = RPM XNH XNHR = RPM V8 = 2354.2 FPS AE8 = 20.4 SQ IN

FNINI = LBS XNL = RPM XNH XNHR = RPM V8 = 2354.2 FPS AE8 = 20.4 SQ IN

FNRAMB = LBS XNLR = RPM XNH XNHR = RPM V8 = 2354.2 FPS AE8 = 20.4 SQ IN

RUNPT = 82F-ZER-0105 TAPE = X01051 TEST PT NO = 0105 NC = AE040 CORR FAN SPEED = RPM

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OF POOR QUALITY

IDENTIFICATION - MODEL 82F-400-0106 X0106C
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

**ORIGINAL PAGE IS
OF POOR QUALITY**

| FREQ | 88.4 | 88.0 | 84.0 | 87.8 | 88.1 | 86.2 | 86.4 | 87.8 | 89.5 | 97.3 | 98.2 | 95.1 | 98.0 | 134.2 | PWL |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| 50 | 88.4 | 88.0 | 84.0 | 87.8 | 88.1 | 86.2 | 86.4 | 87.8 | 89.5 | 97.3 | 98.2 | 95.1 | 98.0 | 134.2 | |
| 63 | 89.2 | 90.3 | 90.8 | 93.6 | 89.4 | 89.8 | 94.7 | 91.6 | 92.8 | 99.4 | 99.2 | 95.7 | 98.8 | 136.5 | |
| 80 | 89.8 | 94.1 | 88.3 | 91.9 | 90.5 | 91.3 | 91.2 | 93.4 | 94.6 | 93.7 | 97.8 | 98.0 | 100.4 | 136.0 | |
| 100 | 87.6 | 92.1 | 88.1 | 88.7 | 92.4 | 92.4 | 92.4 | 92.4 | 95.4 | 95.7 | 98.6 | 102.3 | 103.7 | 137.9 | |
| 125 | 86.9 | 87.6 | 88.7 | 92.7 | 93.3 | 92.7 | 91.5 | 92.7 | 93.7 | 95.7 | 98.4 | 105.0 | 107.0 | 139.8 | |
| 160 | 85.3 | 85.6 | 85.6 | 87.1 | 87.5 | 87.6 | 88.7 | 89.9 | 92.6 | 97.7 | 103.0 | 106.0 | 108.9 | 140.3 | |
| 200 | 85.5 | 85.3 | 84.3 | 87.4 | 88.7 | 88.8 | 93.1 | 97.8 | 98.9 | 104.4 | 109.3 | 110.4 | 142.5 | | |
| 250 | 84.6 | 86.6 | 84.6 | 88.7 | 89.6 | 90.2 | 94.9 | 97.8 | 104.4 | 109.3 | 112.0 | 111.9 | 145.4 | | |
| 315 | 85.3 | 87.4 | 85.9 | 88.7 | 89.8 | 90.4 | 91.8 | 94.4 | 100.4 | 106.2 | 111.6 | 113.0 | 146.7 | | |
| 400 | 86.8 | 88.6 | 86.1 | 89.4 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 148.3 | | |
| 500 | 87.4 | 89.5 | 87.0 | 90.5 | 91.6 | 92.2 | 93.1 | 97.3 | 104.5 | 112.8 | 116.4 | 113.5 | 149.8 | | |
| 630 | 88.8 | 90.6 | 88.6 | 92.1 | 93.2 | 94.1 | 94.7 | 100.4 | 107.1 | 116.2 | 118.1 | 113.9 | 151.6 | | |
| 800 | 91.4 | 91.0 | 90.5 | 94.0 | 94.6 | 95.2 | 97.4 | 101.8 | 110.0 | 118.3 | 119.2 | 112.4 | 153.0 | | |
| 1000 | 96.2 | 97.0 | 94.7 | 97.5 | 97.1 | 97.0 | 98.1 | 104.0 | 111.7 | 119.6 | 119.4 | 111.6 | 153.8 | | |
| 1250 | 100.0 | 102.7 | 99.5 | 100.3 | 99.6 | 98.3 | 99.9 | 105.3 | 113.0 | 120.1 | 120.0 | 110.6 | 154.4 | | |
| 1600 | 109.2 | 107.3 | 104.3 | 102.8 | 100.7 | 100.5 | 106.4 | 114.0 | 120.1 | 121.0 | 111.4 | 105.2 | 155.3 | | |
| 2000 | 108.4 | 110.8 | 108.7 | 108.1 | 104.7 | 101.3 | 102.3 | 107.6 | 114.5 | 120.7 | 119.8 | 112.1 | 155.5 | | |
| 2500 | 105.6 | 108.2 | 111.0 | 111.0 | 104.7 | 108.0 | 114.1 | 119.9 | 117.9 | 110.5 | 105.2 | 105.8 | 154.8 | | |
| 3150 | 104.0 | 106.1 | 104.8 | 110.7 | 109.6 | 105.6 | 114.4 | 118.3 | 116.8 | 109.9 | 103.7 | 103.7 | 154.1 | | |
| 4000 | 103.7 | 104.8 | 103.8 | 106.6 | 108.1 | 108.2 | 110.8 | 113.7 | 117.9 | 115.6 | 107.9 | 102.7 | 153.5 | | |
| 5000 | 102.5 | 104.0 | 102.6 | 105.3 | 105.8 | 105.0 | 107.4 | 110.9 | 113.4 | 115.4 | 106.4 | 101.1 | 152.2 | | |
| 6300 | 100.9 | 102.9 | 102.1 | 105.0 | 104.5 | 104.7 | 111.4 | 113.3 | 114.1 | 111.3 | 104.1 | 99.2 | 151.5 | | |
| 8000 | 99.9 | 102.0 | 100.3 | 103.2 | 104.9 | 104.5 | 110.0 | 113.3 | 113.8 | 110.4 | 103.4 | 98.1 | 151.5 | | |
| 10000 | 98.5 | 101.3 | 100.0 | 102.3 | 104.0 | 104.0 | 105.2 | 109.7 | 112.1 | 113.8 | 10 | | | | |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0106 X0106F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

FREQ
50
63
80
100
125
160

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 200 | 91.6 | 92.3 | 89.0 | 91.4 | 90.2 | 89.6 | 88.3 | 91.3 | 96.9 | 101.8 | 106.7 | 108.6 | 109.8 | 142.8 |
| 250 | 91.6 | 92.3 | 89.0 | 91.4 | 91.5 | 90.6 | 90.4 | 91.6 | 99.8 | 107.2 | 110.7 | 112.2 | 110.2 | 146.0 |
| 315 | 91.6 | 92.3 | 89.0 | 91.4 | 91.5 | 90.6 | 90.4 | 91.6 | 99.8 | 107.2 | 110.7 | 112.2 | 110.2 | 146.0 |
| 400 | 92.4 | 93.3 | 90.6 | 91.9 | 92.4 | 90.6 | 91.7 | 93.8 | 102.2 | 110.1 | 113.8 | 112.9 | 109.3 | 147.8 |
| 500 | 93.1 | 94.0 | 90.4 | 92.4 | 93.4 | 92.6 | 92.1 | 95.1 | 104.8 | 113.3 | 115.3 | 112.9 | 108.5 | 149.3 |
| 630 | 94.4 | 95.4 | 91.7 | 93.8 | 95.2 | 94.5 | 93.7 | 98.0 | 108.0 | 115.9 | 117.1 | 113.0 | 110.6 | 151.2 |
| 800 | 96.4 | 96.9 | 93.6 | 95.6 | 96.6 | 95.7 | 96.4 | 110.2 | 117.7 | 118.1 | 113.7 | 113.1 | 112.7 | 152.7 |
| 1000 | 98.6 | 97.1 | 95.3 | 97.5 | 97.6 | 97.3 | 101.8 | 111.7 | 118.5 | 118.9 | 113.0 | 114.7 | 113.5 | 153.5 |
| 1250 | 101.4 | 101.4 | 98.2 | 100.1 | 99.1 | 99.2 | 103.3 | 113.0 | 118.8 | 120.2 | 114.0 | 115.3 | 114.4 | 154.4 |
| 1500 | 106.5 | 108.1 | 103.6 | 103.1 | 102.9 | 101.6 | 101.2 | 104.7 | 113.9 | 119.9 | 119.6 | 115.4 | 116.9 | 155.2 |
| 2000 | 116.8 | 113.7 | 109.4 | 106.5 | 102.6 | 102.6 | 106.9 | 119.2 | 119.5 | 118.2 | 114.2 | 116.6 | 115.7 | 156.2 |
| 2500 | 115.4 | 116.6 | 113.3 | 111.4 | 112.8 | 106.3 | 102.6 | 106.9 | 114.7 | 118.3 | 117.5 | 114.2 | 115.6 | 156.2 |
| 3150 | 111.9 | 113.9 | 112.0 | 114.8 | 114.0 | 111.8 | 108.3 | 114.5 | 118.3 | 116.5 | 112.1 | 114.2 | 115.0 | 156.0 |
| 4000 | 111.6 | 112.7 | 110.4 | 112.7 | 110.3 | 110.7 | 109.4 | 111.0 | 114.3 | 116.0 | 114.8 | 112.6 | 114.7 | 154.1 |
| 5000 | 111.3 | 111.5 | 109.5 | 109.8 | 108.0 | 108.8 | 111.0 | 114.2 | 115.9 | 113.8 | 109.3 | 110.5 | 110.5 | 154.1 |
| 6300 | 109.9 | 110.8 | 108.4 | 110.2 | 109.0 | 108.4 | 107.2 | 111.4 | 114.4 | 114.7 | 112.3 | 108.2 | 110.6 | 153.7 |
| 8000 | 108.2 | 109.5 | 107.7 | 108.8 | 109.0 | 107.5 | 106.3 | 110.2 | 113.3 | 114.5 | 111.4 | 107.4 | 109.1 | 153.2 |
| 10000 | 107.0 | 108.4 | 105.8 | 107.7 | 108.0 | 106.8 | 109.8 | 111.9 | 112.2 | 110.5 | 106.4 | 108.3 | 112.6 | 152.6 |
| 12500 | 105.4 | 107.4 | 105.3 | 106.5 | 105.7 | 105.0 | 107.9 | 111.1 | 111.0 | 108.1 | 103.9 | 105.6 | 115.0 | 152.0 |
| 15000 | 102.7 | 104.3 | 102.4 | 103.9 | 104.3 | 103.2 | 102.9 | 105.8 | 108.4 | 108.6 | 105.6 | 101.3 | 103.1 | 150.9 |
| 20000 | 99.6 | 101.4 | 99.2 | 101.3 | 101.1 | 100.3 | 102.7 | 105.2 | 105.5 | 101.7 | 100.6 | 101.1 | 149.7 | 149.4 |
| 25000 | 95.7 | 97.8 | 96.3 | 97.5 | 99.4 | 99.1 | 98.2 | 100.3 | 102.9 | 102.9 | 99.2 | 96.9 | 96.1 | 149.4 |
| 31500 | 94.3 | 96.2 | 93.8 | 94.5 | 95.6 | 94.6 | 96.4 | 99.4 | 99.4 | 101.0 | 96.2 | 93.5 | 92.1 | 149.5 |
| 40000 | 88.8 | 91.5 | 88.3 | 90.2 | 91.6 | 90.1 | 89.6 | 92.4 | 95.7 | 96.1 | 92.0 | 88.3 | 86.6 | 149.0 |
| 50000 | 83.5 | 85.9 | 84.3 | 85.1 | 86.0 | 85.7 | 83.8 | 86.9 | 91.9 | 92.4 | 87.5 | 82.9 | 81.3 | 148.9 |
| 63000 | 77.3 | 79.7 | 76.9 | 78.9 | 79.9 | 79.5 | 78.3 | 80.7 | 88.2 | 90.7 | 85.0 | 77.2 | 74.6 | 150.3 |
| 80000 | 71.0 | 72.8 | 70.2 | 71.3 | 74.4 | 72.9 | 70.8 | 74.1 | 78.4 | 80.9 | 75.2 | 67.4 | 64.8 | 148.4 |
| GASPL | 122.1 | 122.4 | 119.7 | 120.6 | 120.3 | 118.4 | 116.9 | 119.8 | 124.9 | 128.9 | 128.7 | 124.7 | 125.5 | 166.6 |
| PWL | 134.5 | 135.4 | 132.4 | 134.0 | 133.5 | 131.5 | 129.6 | 132.0 | 137.0 | 141.0 | 140.0 | 136.4 | 137.5 | 189.0 |
| PWLT | 136.5 | 135.4 | 132.4 | 134.0 | 133.5 | 131.5 | 129.6 | 132.0 | 137.0 | 141.0 | 140.0 | 136.4 | 137.5 | 189.0 |
| DBA | 193.3 | 195.3 | 192.8 | 194.1 | 196.4 | 195.2 | 193.5 | 196.5 | 201.9 | 204.2 | 198.6 | 191.4 | 189.0 | |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514

VEHICLE = ADH744 TEST DATE = 03-19-82
IAPLHA = SB59 LEGA / = NO
WIND DIR = DEG WIND VEL = MPH
LOCAL = C41 ANECH CH CONFIG = 1
PWL AREA = FULL SPHERE TAMB F = 44.00
EXT DIST = 40.0 FT
EXT CNF16 = ARC
MIKE HT =
PAMB HG = 29.55
RELHUM = 92.5 PCT
FLTVEL = 400. FPS
NBFR =

FNINI = LBS XNL RPM XNHR =
LBS XNL RPM XNHR =
= 2358.4 FPS AE8
= 20.4 SQ IN
= 0. SQ IN

RUNPT = 82F-400-0106 TAPE = X0106F TEST PT NO = 0106 NC = AE040 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0106 X01061

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PNL

FREQ 50 63 80 100 125 160 200 250 315 400 500 630 800 1000 1250 1600 2000 2500 3150 4000 5000 6300 8000

73.8 72.0 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

71.3 74.4 71.9 74.6 76.1 75.3 74.7 77.3 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

73.8 73.1 76.0 77.8 77.2 76.3 80.2 86.3 93.8 94.2 89.6 92.8 89.6 82.7 166.2

ORIGINAL PAGE 13
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0107 X0107F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

63 89.0 91.3 91.3 91.3 91.2 90.3 93.9 89.8 93.0 96.4 95.0 96.2 95.8 135.0

80 90.5 94.6 89.1 91.9 91.5 92.8 92.0 93.6 95.3 95.9 98.3 99.5 100.1 136.8

100 88.8 94.6 89.6 94.7 93.9 93.5 96.7 96.9 98.7 99.3 103.3 104.2 139.2

125 86.9 88.6 89.9 93.7 94.5 93.7 92.3 93.9 96.2 99.7 105.9 107.3 141.7

160 86.3 86.3 87.6 89.9 90.5 90.3 92.0 93.6 96.1 101.2 105.8 108.5 111.1 142.9

200 88.3 88.6 87.8 91.9 93.0 93.3 92.7 96.6 101.3 104.2 108.5 112.0 113.1 145.7

250 87.8 91.3 89.6 93.1 92.7 93.3 94.7 98.7 105.1 109.4 113.5 115.7 149.3

315 88.1 91.6 89.1 92.9 94.8 94.6 95.8 98.7 105.1 111.2 115.6 116.8 150.8

400 90.3 92.9 90.1 94.4 95.0 94.6 96.8 99.9 107.4 115.2 118.3 119.7 152.8

500 91.2 95.0 91.0 96.4 96.7 97.1 102.3 109.0 117.3 120.2 118.1 115.3 154.1

550 93.0 96.1 93.1 96.9 97.7 98.1 99.0 104.6 112.1 120.7 119.0 115.9 155.9

600 96.9 97.0 95.2 98.5 99.4 99.7 101.6 106.3 114.5 121.8 118.6 116.8 156.7

700 101.7 103.2 99.5 102.5 101.6 102.2 108.4 116.0 122.8 121.9 118.9 116.0 157.4

800 108.6 108.9 107.7 112.7 114.1 108.4 116.4 121.6 119.9 114.0 109.0 107.0 157.0

900 107.0 106.6 105.8 109.6 111.4 110.5 106.9 111.1 116.2 120.3 118.0 112.2 155.8

1000 104.7 107.0 105.5 108.3 107.9 109.4 108.5 112.8 115.4 119.4 116.9 109.9 155.0

1100 103.7 105.8 103.8 106.8 106.0 108.0 106.5 110.4 111.9 114.2 117.1 114.9 153.8

1200 101.7 104.6 103.6 106.1 107.2 107.2 107.0 112.7 114.2 117.1 114.9 107.6 153.6

1300 100.1 102.8 101.6 105.2 106.4 106.2 105.9 111.0 113.3 115.6 113.3 105.6 152.7

1400 98.5 102.3 101.3 104.8 106.2 105.7 106.0 110.5 112.4 115.5 111.9 105.4 152.7

1500 97.1 100.2 99.7 102.7 104.4 104.2 108.2 110.3 112.5 110.4 103.9 98.3 151.3

1600 93.7 97.7 96.6 100.4 102.3 102.2 102.3 106.2 108.8 111.0 108.5 95.5 150.8

1700 91.4 95.4 93.8 97.1 99.8 99.8 100.2 103.8 106.2 109.2 105.9 98.0 150.3

1800 88.3 92.4 91.4 94.4 96.8 97.9 98.0 97.4 99.6 102.6 104.1 99.6 148.7

1900 86.3 90.5 87.8 90.5 94.6 93.8 97.0 96.8 97.4 99.3 102.3 97.0 149.0

2000 79.1 84.5 83.9 86.5 89.5 90.1 90.0 93.8 96.7 100.3 94.7 87.7 150.1

2100 74.7 79.8 78.7 81.5 84.9 85.7 85.1 88.7 92.9 96.0 90.1 82.2 150.1

2200 68.8 75.6 72.9 76.2 80.3 80.8 79.4 84.1 88.1 90.8 86.4 72.7 153.3

2300 64.0 69.0 68.1 69.6 74.3 75.6 74.3 79.3 83.5 88.0 79.8 72.7 153.3

2400 118.3 116.2 118.9 119.7 117.7 122.3 127.0 132.3 132.8 129.0 126.7 168.8

2500 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6

2600 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6

2700 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6

2800 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6

2900 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6

3000 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6

3100 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6

3200 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6

3300 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6

3400 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6

3500 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6 132.6

ORIGINAL PAGE 13
OF POOR QUALITY

| | | | | | | |
|---|-------------------|------------------------|----------------------|------------------|-------------------|-----------------|
| NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514 | VEHICL = ADH734 | TEST DATE = 03-19-82 | LOCAT = C41 ANECH CH | CONFIG = 1 | MODEL = AX | FLTVEL = 0. FPS |
| IAPLHA = SB59 | IEGA = NO | PML AREA = FULL SPHERE | TAMB F = 44.00 | PAMB HG = 29.55 | RELHUM = 92.5 PCT | NBFR = |
| WIND DIR = | DEG WIND VEL = | MPH | EXT DIST = 40.0 FT | EXT CONFIG = ARC | MIKE HT = | |
| FNINI = | LBS XNL | RPM | XNH | RPM | V8 | = 2381.2 FPS |
| FNRAMB = | LBS XNL | RPM | XNHR | RPM | V18 | = |
| NC = AE040 | CORR FAN SPEED = | RPM | | | | |
| ZER-0107 TAPE = X0107F | TEST PT NO = 0107 | | | | | |
| RUNPT = | | | | | | |

DATPROC - FLTKAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARCIDENTIFICATION - MODEL 82F-400-0108 X0108C
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREO 89.2 91.7 85.7 89.0 88.1 88.2 87.9 88.3 90.0 101.3 97.7 94.9 135.9

50 89.2 91.7 85.7 89.0 88.1 88.2 87.9 88.3 90.0 101.3 97.7 94.9 135.9

63 89.7 93.8 92.3 92.8 92.9 91.0 94.4 90.8 93.5 101.1 98.5 94.9 137.2

80 90.5 94.3 88.6 92.9 92.0 92.3 92.0 93.4 94.6 99.2 97.0 98.0 136.9

100 88.8 93.1 88.1 92.4 92.7 92.6 92.2 96.2 95.6 98.2 97.8 102.5 138.3

125 87.6 88.6 88.9 93.2 93.5 92.7 91.8 93.2 94.7 100.0 103.1 105.5 140.5

160 86.3 86.3 86.3 86.4 87.5 88.3 89.2 90.1 92.8 99.7 103.0 106.0 140.6

200 86.8 87.3 84.6 87.9 89.0 89.6 89.7 93.4 97.8 101.2 105.0 110.9 142.9

250 86.0 86.1 85.3 89.1 89.2 90.8 90.7 94.6 97.8 104.9 109.3 112.5 145.7

315 86.6 88.4 85.9 89.7 90.0 91.1 92.3 94.9 100.1 107.2 111.8 113.8 147.2

400 88.1 89.6 86.6 91.2 91.0 91.1 92.8 95.9 102.6 110.7 114.8 115.3 149.1

500 88.4 90.7 87.5 90.8 91.9 93.0 93.6 98.3 104.7 113.3 116.9 113.9 150.2

600 92.4 93.2 90.5 93.8 95.1 95.2 97.1 102.8 109.5 118.6 119.4 112.6 153.2

800 96.7 98.7 95.5 98.3 97.4 97.0 98.6 104.0 111.2 119.8 120.4 112.1 154.3

1000 96.7 98.7 95.5 98.3 97.4 97.0 98.6 104.0 111.2 119.8 120.4 112.1 154.3

1250 101.7 104.5 100.5 101.0 100.1 99.3 100.6 107.4 112.6 120.6 120.5 110.6 154.9

1600 110.2 109.5 105.5 104.1 101.2 100.8 107.4 112.6 120.9 122.0 111.4 105.9 156.0

2000 108.6 111.5 109.0 109.6 105.9 102.3 102.0 107.6 113.5 121.2 120.8 111.6 156.0

2500 106.1 108.4 107.7 111.0 110.8 105.7 102.9 108.7 113.6 120.4 118.4 111.0 155.2

3150 105.2 107.3 108.6 111.2 110.5 106.1 109.1 114.2 119.8 117.5 103.9 154.9

4000 104.2 105.8 104.3 106.6 108.5 108.5 108.5 111.1 113.9 118.4 115.9 107.9 153.9

5000 103.2 105.3 103.3 105.8 106.0 105.5 107.6 111.4 113.4 116.3 114.9 106.9 152.8

6300 101.7 102.8 105.1 105.7 106.5 112.4 113.4 116.3 114.4 105.6 100.4 152.9

8000 100.9 102.5 100.8 104.2 104.9 105.5 110.5 113.5 114.8 112.6 104.3 152.2

10000 99.7 101.8 100.3 103.0 105.0 104.7 105.5 110.2 112.4 115.0 111.2 152.2

12500 97.9 99.7 98.4 100.9 102.9 103.5 108.7 110.5 112.3 109.4 101.9 151.0

16000 94.9 96.9 98.6 100.8 101.5 101.8 106.4 109.7 107.3 99.0 150.2

20000 91.9 94.7 93.3 98.3 99.3 98.9 103.6 106.2 107.4 104.1 149.3

25000 88.8 90.9 90.1 92.2 95.0 96.6 100.3 102.1 103.9 99.1 148.0

31500 84.3 87.5 85.8 89.0 91.2 92.1 92.6 96.7 98.8 101.1 147.9

40000 79.4 82.5 81.7 83.7 88.9 88.7 92.8 95.5 98.8 93.2 148.7

50000 74.7 77.5 75.0 78.5 81.7 84.0 83.1 87.7 91.1 93.0 147.9

63000 69.8 72.1 69.4 72.7 77.0 78.5 77.6 82.1 85.1 89.3 148.5

80000 65.5 66.8 63.6 66.8 70.1 71.1 70.3 76.8 81.3 84.5 150.3

OASPL 115.8 117.5 115.3 117.3 117.6 116.8 116.3 120.8 124.5 130.4 130.2 124.2 166.5

PNLT 128.0 130.9 132.0 130.9 132.0 131.8 129.8 133.4 137.2 142.8 141.9 135.3 130.5

DBA 116.4 118.1 115.8 117.8 117.9 116.8 116.0 120.4 124.4 130.6 130.2 122.5 116.8

NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH743 TEST DATE = 03-19-82 LOCAT = C41 ANECH CH CNF10 = 1 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 44.00 PAMB HG = 29.55 RELHUM = 92.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNF10 = ARC MIKE HT = NBFRFNINI = LBS XNL RPM XNHR XNH RPM = V8 = 2377.7 FPS AEB AE18 = 20.4 SQ IN
FNRAMB = LBS XNL RPM XNHR XNH RPM = V18 = 2377.7 FPS AEB AE18 = 20.4 SQ IN

RUNPT = 82F-400-0108 TAPE = X0108C TEST PT NO = 0108 NC = AE040 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0108 X0108F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

PML

ORIGINAL PAGE IS
OF POOR QUALITY

| | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 250 | 92.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 250 | 92.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 315 | 92.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 400 | 93.1 | 94.0 | 90.3 | 92.7 | 92.6 | 91.4 | 92.0 | 94.1 | 102.4 | 110.5 | 114.2 | 112.8 | 148.1 |
| 500 | 93.9 | 94.7 | 90.7 | 94.0 | 93.6 | 93.3 | 92.6 | 96.0 | 105.0 | 113.8 | 115.6 | 113.4 | 149.7 |
| 630 | 94.7 | 96.2 | 91.8 | 93.8 | 95.2 | 94.8 | 94.2 | 98.0 | 107.5 | 116.1 | 117.3 | 113.1 | 151.3 |
| 800 | 96.3 | 97.7 | 93.7 | 95.5 | 96.9 | 95.7 | 96.1 | 100.4 | 109.8 | 118.0 | 119.2 | 114.2 | 153.3 |
| 1000 | 98.3 | 98.3 | 94.6 | 96.8 | 99.0 | 97.6 | 97.8 | 101.8 | 111.5 | 119.0 | 119.4 | 113.0 | 153.9 |
| 1250 | 102.5 | 103.5 | 99.1 | 100.9 | 101.9 | 99.5 | 103.8 | 112.8 | 119.5 | 121.2 | 114.0 | 116.0 | 155.1 |
| 1600 | 108.5 | 110.1 | 104.8 | 103.4 | 101.8 | 101.2 | 105.7 | 120.8 | 120.2 | 114.6 | 114.6 | 115.5 | 155.5 |
| 2000 | 117.8 | 116.0 | 110.7 | 107.8 | 103.6 | 101.9 | 106.1 | 113.4 | 119.9 | 118.6 | 114.6 | 116.5 | 156.3 |
| 2500 | 118.9 | 120.1 | 115.7 | 114.3 | 113.6 | 107.3 | 103.1 | 107.7 | 114.3 | 119.6 | 113.6 | 115.4 | 157.9 |
| 3150 | 112.6 | 114.2 | 112.6 | 114.5 | 106.7 | 108.4 | 114.7 | 116.7 | 112.0 | 112.0 | 114.3 | 115.3 | 156.3 |
| 4000 | 112.6 | 114.0 | 113.0 | 110.3 | 111.4 | 109.7 | 110.0 | 114.2 | 116.7 | 115.7 | 111.0 | 112.9 | 155.3 |
| 5000 | 111.8 | 112.5 | 110.0 | 111.0 | 108.5 | 109.1 | 111.5 | 114.2 | 116.6 | 115.0 | 109.3 | 111.0 | 154.7 |
| 6300 | 110.1 | 111.7 | 108.9 | 109.5 | 108.7 | 107.9 | 112.4 | 114.5 | 115.3 | 113.4 | 108.1 | 110.2 | 154.3 |
| 8000 | 109.0 | 110.7 | 108.5 | 109.8 | 109.0 | 108.5 | 110.5 | 113.5 | 115.7 | 112.2 | 107.4 | 109.1 | 153.9 |
| 10000 | 108.0 | 108.9 | 108.7 | 109.0 | 107.7 | 107.0 | 112.0 | 112.0 | 113.2 | 110.7 | 106.2 | 107.9 | 153.2 |
| 12500 | 106.6 | 107.9 | 105.5 | 107.3 | 107.0 | 106.4 | 105.0 | 108.7 | 111.1 | 109.1 | 103.9 | 105.8 | 152.5 |
| 16000 | 104.2 | 105.3 | 103.1 | 104.8 | 104.6 | 103.4 | 106.6 | 108.7 | 109.3 | 106.4 | 102.0 | 103.8 | 151.6 |
| 20000 | 100.9 | 102.1 | 99.9 | 102.0 | 102.4 | 102.3 | 100.6 | 103.7 | 105.2 | 104.4 | 100.1 | 96.8 | 150.4 |
| 25000 | 97.2 | 99.3 | 97.0 | 99.0 | 99.6 | 99.6 | 98.3 | 100.6 | 102.6 | 104.4 | 100.1 | 96.8 | 150.1 |
| 31500 | 96.1 | 97.0 | 94.8 | 95.3 | 95.8 | 95.1 | 94.2 | 96.8 | 100.1 | 102.9 | 97.7 | 93.4 | 150.5 |
| 40000 | 90.8 | 92.7 | 89.6 | 91.2 | 91.9 | 90.3 | 92.9 | 96.2 | 97.6 | 93.2 | 88.6 | 87.5 | 150.0 |
| 50000 | 85.5 | 87.4 | 85.1 | 85.6 | 86.3 | 87.0 | 84.8 | 87.9 | 91.1 | 94.8 | 89.9 | 83.4 | 150.0 |
| 63000 | 79.8 | 81.4 | 77.4 | 79.4 | 81.6 | 81.5 | 79.1 | 82.1 | 88.7 | 91.5 | 86.1 | 78.0 | 151.2 |
| 80000 | 73.5 | 74.6 | 70.4 | 72.1 | 74.1 | 74.1 | 71.8 | 76.9 | 78.9 | 81.7 | 76.3 | 68.2 | 149.3 |
| QASPL | 123.7 | 124.4 | 120.8 | 121.5 | 120.9 | 119.1 | 117.3 | 120.4 | 124.7 | 129.6 | 129.4 | 124.8 | 125.6 |
| PML | 136.8 | 137.8 | 134.0 | 134.5 | 134.0 | 132.2 | 129.9 | 132.3 | 137.0 | 141.5 | 140.6 | 136.2 | 137.5 |
| PNLT | 138.1 | 139.5 | 135.3 | 134.5 | 134.0 | 133.2 | 129.9 | 132.3 | 137.0 | 141.5 | 140.6 | 136.2 | 137.5 |
| DBA | 195.7 | 197.0 | 193.2 | 194.8 | 196.7 | 196.7 | 194.5 | 198.7 | 202.3 | 205.1 | 199.8 | 192.1 | 190.4 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514

VEHICLE = ADH743 TEST DATE = 03-19-82 LOCAL = C41 ANECH CH CONFIG = 1 MODEL = AX PAMB HG = 29.55 RELHUM = 92.5 PCT
IAPLHA = SB59 IEQA = NO EXT DIST = 40.0 FT TAMB F = 44.00 MIKE HT = NBRF = 400. FPS
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC PAMB HG = 29.55 RELHUM = 92.5 PCT
FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2377.7 FPS AE8 = 20.4 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2377.7 FPS AE8 = 20.4 SQ IN
RUNPT = 82F-400-0108 TAPE = X0108F TEST PT NO = 0108 NC = AE040 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0111 X0111C

BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 85.2 87.0 84.5 85.5 84.9 82.5 85.6 85.3 87.5 92.6 91.4 92.1 92.5 130.1
63 89.0 91.5 89.6 92.8 92.4 89.8 89.6 93.8 90.4 93.0 95.4 95.8 134.4
80 90.3 95.1 91.0 91.9 92.3 92.2 94.1 95.1 94.2 97.3 99.0 100.1 136.5
100 88.8 94.6 89.4 94.2 94.5 93.6 96.4 96.6 98.4 99.6 103.0 104.2 139.0
125 86.6 89.1 90.2 94.2 94.3 93.7 93.0 94.7 95.9 98.7 105.6 107.3 141.7
160 86.3 86.8 88.3 90.1 90.5 90.8 92.5 93.4 96.1 101.2 105.8 108.0 142.7
200 88.8 89.1 88.1 91.6 93.2 93.1 93.5 96.9 101.3 103.2 108.5 112.2 145.9
250 88.3 91.8 90.1 92.6 93.5 93.6 95.0 99.6 102.6 108.9 113.3 115.5 149.0
315 88.3 91.4 89.4 92.7 95.3 95.4 96.3 99.2 105.6 111.2 115.3 116.4 150.8
400 90.3 93.1 90.4 94.4 95.3 94.9 97.0 100.4 107.9 115.7 118.8 118.3 153.2
500 91.2 94.2 91.2 95.3 96.6 97.0 97.6 102.8 109.7 117.6 120.2 118.1 154.2
630 93.0 96.1 98.2 97.1 98.2 99.3 99.5 104.4 120.7 121.3 118.0 115.6 155.8
800 97.2 97.0 95.2 98.8 99.9 99.7 101.6 106.3 114.7 122.6 121.7 118.4 157.0
1000 101.7 103.7 99.5 102.0 102.1 101.5 102.6 108.0 116.5 123.3 121.7 118.6 157.6
1250 114.0 115.5 109.8 107.3 108.1 105.3 106.6 110.0 118.3 126.3 129.0 122.1 158.9
1600 110.5 109.3 104.8 104.2 103.3 104.1 109.9 117.5 122.4 122.3 113.7 117.6
2000 110.4 112.0 109.0 110.6 107.4 104.0 105.8 110.6 117.5 122.5 120.0 115.1 157.2
2500 109.1 109.4 108.0 112.7 114.8 109.9 105.6 111.2 116.4 122.1 120.7 114.5 157.5
3150 107.5 109.6 111.7 111.0 108.1 109.5 112.3 115.4 120.4 118.6 110.7 109.9 156.5
4000 105.0 107.3 105.8 108.6 108.1 109.1 109.5 112.3 115.4 120.4 117.6 110.7 155.6
5000 104.2 106.0 103.8 107.1 108.5 107.0 108.9 111.9 114.7 118.5 116.1 109.6 154.4
6300 102.2 105.4 103.8 106.6 107.5 107.2 107.2 112.9 114.7 117.8 115.4 108.4 154.2
8000 100.6 103.8 106.4 106.0 105.9 111.3 113.5 116.6 113.8 103.2 103.2 103.2 153.2
10000 99.7 102.8 101.5 105.0 106.2 106.0 106.5 110.7 112.9 116.0 113.2 105.4 153.2
12500 97.4 100.4 99.9 102.7 104.4 104.4 104.4 108.7 111.3 114.3 111.2 103.7 152.2
16000 94.9 97.9 97.4 100.4 102.8 102.7 102.8 106.4 109.3 112.0 109.0 101.5 151.5
20000 91.7 95.4 97.3 100.3 100.3 100.2 104.3 106.5 110.2 106.6 99.0 93.4 150.9
25000 89.0 92.1 92.4 97.6 97.6 98.3 101.1 102.4 105.4 100.1 95.6 89.1 149.2
31500 84.6 88.7 88.8 91.7 94.2 93.6 94.1 97.2 99.5 103.3 98.0 91.9 149.5
40000 80.4 84.5 87.2 90.5 90.6 90.5 93.8 96.7 100.8 95.2 87.7 80.4 150.5
50000 76.2 80.0 79.5 82.2 85.9 85.4 89.2 93.1 96.3 90.1 82.4 75.7 150.4
63000 69.6 75.1 74.4 77.4 80.5 81.0 80.1 84.6 88.1 92.3 86.2 77.8 151.3
80000 64.3 69.0 69.1 71.3 75.3 75.6 74.6 79.8 83.8 88.8 80.8 74.2 153.9

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QASPL 118.7 120.1 116.8 119.1 120.0 118.4 118.1 122.4 127.4 133.2 133.3 129.0 126.6 169.3
PNLT 132.9 135.1 131.7 134.3 135.9 132.1 132.6 135.2 139.9 144.9 144.2 139.1 136.5
DBA 119.4 120.6 117.3 119.5 120.4 118.4 117.9 122.1 127.5 133.3 133.3 128.0 125.1

NASA SHOCK CELL/CIRC CONVCNOC NOZ/AX/SC-1/NAS3-22514

VEHICLE = ADH735 TEST DATE = 03-19-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE EXT DIST = 40.0 FT TAMB F = 44.00 PAMB HG = 29.55 RELHUM = 92.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH RPM XNHR = RPM V8 = 2391.6 FPS AE8 = 20.4 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2391.6 FPS AE18 = 0. SQ IN

RUNPT = 82F-ZER-0111 TAPE = X0111C TEST PT NO = 0111 NC = AE040 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0111 X0111F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

80 90.3 95.1 89.6 91.9 91.7 92.3 92.2 94.1 95.1 97.3 99.0 100.1 136.5

100 88.8 94.6 89.4 94.2 94.5 93.6 93.7 93.0 94.7 95.9 98.7 105.6 107.3 108.0 141.7

125 86.6 89.1 90.2 94.2 94.3 93.7 93.0 94.7 95.9 98.7 105.6 107.3 108.0 141.7

150 86.3 88.8 90.1 90.5 90.8 92.5 93.4 96.1 101.2 105.8 108.0 110.9 142.7

200 88.8 89.1 88.1 91.6 93.2 93.1 93.5 96.9 101.3 103.2 108.5 112.2 113.6 145.9

250 88.3 91.8 90.1 92.6 93.5 93.6 95.0 99.6 102.6 108.9 113.3 115.5 114.6 149.0

315 88.3 91.4 89.4 92.7 95.3 95.4 96.3 99.2 105.6 111.2 115.3 116.8 116.4 150.8

400 90.3 93.1 90.4 94.4 95.3 97.0 97.0 100.4 107.9 115.7 118.3 115.7 153.2

500 91.2 94.2 91.2 95.3 96.6 97.0 97.6 102.8 109.7 117.6 120.2 118.1 115.0 154.2

600 97.2 98.8 98.8 99.7 101.6 106.3 114.7 122.6 121.7 118.4 116.5 157.0

800 101.7 103.7 99.5 102.0 102.1 101.5 102.6 108.0 116.5 123.3 121.7 118.6 115.5 157.6

1000 101.7 103.7 99.5 102.0 102.1 101.5 102.6 108.0 116.5 123.3 121.7 118.6 115.5 157.6

1250 114.0 115.5 109.8 107.3 108.1 105.3 106.6 110.0 118.3 126.3 129.0 122.1 118.9 162.3

1500 110.5 109.3 105.5 104.8 104.2 103.3 104.1 109.9 117.5 122.4 122.2 117.2 113.7 157.6

1600 110.4 110.4 109.0 112.7 114.8 109.9 105.6 111.2 116.4 122.1 120.7 114.5 110.7 157.5

2000 109.1 109.4 108.0 112.7 114.8 109.9 105.6 111.2 116.4 122.1 120.7 114.5 110.7 157.5

2500 109.1 109.4 108.0 112.7 114.8 109.9 105.6 111.2 116.4 122.1 120.7 114.5 110.7 157.5

3150 107.5 109.1 106.3 109.6 111.7 111.0 108.1 111.4 116.7 121.3 118.8 112.7 109.9 156.5

4000 105.0 107.3 105.8 108.1 109.1 109.5 112.3 115.4 120.4 117.6 116.1 109.6 105.9 154.4

5000 104.2 106.0 103.8 107.1 108.5 107.0 108.9 111.9 114.7 118.5 116.1 109.6 105.9 154.4

6300 102.2 105.4 103.8 106.6 107.5 107.7 107.2 112.9 114.7 117.8 115.4 108.4 104.9 154.2

8000 100.6 103.8 101.8 105.4 106.4 106.0 105.9 111.3 113.5 116.6 113.8 106.3 103.2 153.2

10000 99.7 102.8 101.5 105.0 106.0 106.0 106.0 112.9 116.0 113.2 113.2 103.7 98.7 152.2

12500 97.4 100.4 99.9 102.7 104.4 104.4 104.0 108.7 111.3 114.3 111.2 103.7 98.7 152.2

15000 94.9 97.9 97.4 100.4 102.8 102.7 102.8 106.4 109.3 112.0 109.0 101.5 96.3 151.5

20000 91.7 95.4 94.3 97.3 100.3 100.3 100.3 104.3 106.5 110.2 106.6 99.0 93.4 150.9

25000 89.0 92.1 92.4 94.4 97.3 97.6 98.3 101.1 102.4 105.4 100.1 95.6 89.1 149.2

31500 84.6 88.7 88.8 91.7 94.2 93.6 94.1 97.2 99.5 103.8 98.0 91.9 84.0 149.5

40000 80.4 84.5 84.9 87.2 90.5 90.6 90.5 93.8 96.7 100.8 95.2 87.7 80.4 150.5

50000 76.2 80.0 79.5 82.2 85.9 86.0 85.4 89.2 93.1 96.3 90.1 82.4 75.7 150.4

63000 69.6 75.1 74.4 77.4 80.5 81.0 80.1 84.6 88.1 92.3 86.2 77.8 71.5 151.3

80000 64.3 69.0 69.1 71.3 75.3 75.6 74.6 79.8 83.8 88.8 80.8 74.2 65.6 153.9

GASPL 118.7 120.1 116.8 119.1 120.0 118.4 118.1 122.4 127.4 133.2 133.3 129.0 126.6 169.3

PWL 130.2 131.6 129.2 132.7 134.0 132.1 131.5 135.2 139.9 144.9 144.2 139.1 136.5

PWL 132.9 135.1 131.7 134.3 135.9 132.1 132.6 135.2 139.9 146.0 146.5 140.5 137.9

DBA 186.2 191.0 190.8 193.3 197.0 197.4 196.4 201.3 205.2 209.9 202.5 195.5 187.5

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH735 TEST DATE = 03-19-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVL = 0. FPS
IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 44.00 PAMB HG = 29.55 RELHUM = 92.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT
FNIN1 = LBS XNL RPM XNH RPM V8 = 2391.6 FPS AE8 = 20.4 SQ IN
FNRAMB = LBS XNL RPM XNH RPM V8 = 2391.6 FPS AE8 = 20.4 SQ IN
CORR FAN SPEED = RPM

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DATPROC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0111 X0111

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 69.3 73.6 71.9 76.7 77.9 77.7 79.7 82.7 89.4 96.2 97.8 95.0 89.1 171.5
63 70.1 74.7 72.8 77.5 79.3 79.8 80.3 85.0 91.3 98.0 99.1 94.8 88.4 172.5
80 71.9 76.5 74.3 79.3 80.8 81.1 82.1 86.6 93.8 101.1 100.1 94.6 88.9 174.2
100 76.0 77.3 76.7 80.9 82.4 84.2 88.4 96.2 102.9 100.5 94.9 89.6 175.4
125 80.3 84.0 80.8 84.1 84.6 84.1 85.1 90.1 97.8 103.6 100.4 95.0 88.4 175.9
160 92.4 95.6 91.0 89.2 90.5 87.8 89.0 92.0 99.5 106.4 107.4 98.3 91.4 180.7
200 88.7 89.1 86.6 86.6 86.4 85.6 86.3 91.7 98.6 102.2 100.5 93.0 85.7 175.9
250 88.3 89.7 92.2 89.4 86.2 87.8 92.2 98.2 102.1 97.9 90.5 83.2 175.6
315 86.6 88.7 94.0 96.6 91.8 87.4 92.5 96.8 101.4 98.1 89.3 81.3 175.8
400 84.5 87.9 86.5 90.6 93.1 92.6 89.6 92.3 96.8 100.1 95.7 86.8 79.5 174.9
500 81.5 85.7 85.6 89.3 90.4 90.7 93.0 95.2 96.8 94.1 84.2 76.5 173.9
630 80.2 84.1 83.3 87.5 89.4 88.0 89.7 92.3 94.1 96.6 92.1 82.5 73.4 172.7
800 77.7 83.1 83.0 86.7 88.1 88.5 87.9 93.0 93.8 95.5 90.9 80.5 71.2 172.6
1000 75.7 81.2 80.7 85.4 86.9 86.7 86.4 91.2 92.4 94.0 88.9 77.8 68.4 171.6
1250 74.3 79.8 80.2 84.8 86.6 86.5 86.9 90.5 91.6 93.1 87.7 76.0 64.9 171.6
1600 71.1 76.9 78.2 82.1 84.5 84.7 84.1 88.1 89.6 90.7 84.9 73.0 60.1 170.6
2000 67.7 73.8 75.3 79.6 82.7 82.9 82.7 85.6 87.2 87.8 81.8 69.2 54.7 169.8
2500 62.6 70.1 71.4 75.9 79.7 80.0 79.5 82.9 83.5 84.8 77.6 63.9 46.9 169.3
3150 56.6 64.3 67.5 71.4 75.3 75.9 76.3 78.1 77.5 77.6 67.7 55.5 34.2 167.6
4000 45.9 56.2 60.1 65.4 69.2 69.0 69.1 70.9 70.9 70.8 59.3 42.9 14.6 167.8
5000 32.0 44.5 50.0 55.5 60.5 62.1 61.8 60.7 46.8 25.0 168.9
6300 10.0 25.7 32.5 39.7 45.8 46.7 45.3 46.7 46.1 42.0 23.8 169.7
8000 8000

8000 10000 12500 16000 20000 25000 31500 40000 63000 80000

QASPL 96.5 99.4 97.1 100.0 101.4 99.8 99.3 103.1 107.8 112.8 111.4 104.3 97.9 187.5
PNLT 100.9 105.2 103.3 107.1 109.3 106.9 106.7 109.7 113.5 117.3 115.7 106.5 98.8
DBA 88.5 92.3 91.5 95.4 97.2 96.4 96.0 99.7 102.0 104.8 101.1 92.0 84.4

MODEL AREA = 131.5 SQ CM (20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.268 FREQ SHIFT = -9

NASA SHOCK CELL/CIRC CONVCONIC NO2/AX/SC-1/NAS3-22514

VEHICL = ADH735 TEST DATE = 03-19-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEQA' = NO PWL AREA = FULL SPHERE TAMB F = 44.00 PAMB HG = 29.55 RELHUM = 92.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =ORIGINAL PAGE IS
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CORR FAN SPEED = RPM

FNINI = LBS XNL RPM XNHR = V8 = 2391.6 FPS AE8 = 20.4 SQ IN
FNFRMB = LBS XNL RPM XNHR = V8 = 2391.6 FPS AE8 = 20.4 SQ IN

RUNPT = 82F-ZER-0111 TAPE = X01111

TEST PT NO = 0111

NC

= AE040

RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0112 X0112C
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160
PWL

50 90.4 91.7 86.2 81.0 86.9 87.7 88.9 87.8 90.2 98.3 97.7 95.6 97.5 134.8
63 90.2 92.3 91.5 89.4 90.0 90.7 91.8 94.0 98.2 99.2 99.2 97.8 98.2 136.2
80 91.5 95.6 90.1 92.9 92.8 92.2 93.6 95.3 94.7 97.6 98.2 98.2 100.9 136.8
100 88.8 93.6 89.6 92.7 93.2 93.1 92.5 96.2 95.9 96.4 98.3 102.5 103.9 138.3
125 86.9 88.4 89.7 93.2 93.8 92.7 91.8 92.9 94.7 96.7 103.1 106.0 107.2 140.3
160 85.3 84.1 87.3 87.4 88.1 89.2 89.9 92.8 92.8 98.2 103.3 106.0 109.6 140.7
200 85.8 86.6 86.8 87.6 89.2 89.3 90.0 93.6 98.3 100.2 105.3 109.7 110.9 143.1
250 85.3 87.1 85.3 88.9 89.2 89.6 91.0 94.9 98.3 105.4 112.3 112.4 146.1
315 85.6 87.9 86.1 88.9 90.5 90.4 92.0 94.7 100.1 107.4 112.3 114.3 147.6
400 87.1 89.4 87.1 90.2 91.5 90.9 92.5 95.7 102.6 110.7 115.3 114.8 149.2
500 87.7 89.5 87.5 90.8 92.6 92.5 93.6 97.8 104.5 113.6 116.9 114.9 150.4
630 89.0 91.8 89.9 92.9 94.0 94.1 95.5 100.6 107.6 116.9 118.6 119.7 152.2
800 92.2 92.0 92.0 94.0 95.4 95.5 97.4 102.3 110.0 118.8 119.7 112.6 153.4
1000 96.9 98.5 96.0 99.3 97.4 97.2 98.4 104.5 111.5 120.6 119.9 112.1 154.5
1250 103.5 105.5 101.5 101.8 100.4 99.3 99.9 105.5 112.8 120.8 120.5 111.1 155.0
1600 111.2 110.3 106.8 105.3 101.4 101.0 101.6 106.9 114.0 120.9 121.5 111.9 156.0
2000 108.9 111.8 109.7 110.6 107.2 102.3 102.3 107.6 114.2 121.5 120.5 112.1 156.2
2500 106.6 108.4 108.2 112.0 111.8 106.7 103.4 109.0 114.4 120.9 118.9 111.0 155.8
3150 105.7 107.3 106.3 108.6 111.2 111.0 108.9 108.7 111.1 113.9 115.6 107.9 153.8
4000 105.2 106.0 104.8 107.6 107.6 108.9 108.7 111.4 113.7 116.0 114.1 106.9 152.8
5000 103.5 105.3 103.8 106.1 107.3 106.0 106.1 111.4 113.7 116.0 114.1 106.9 152.8
6300 102.4 104.1 102.8 105.3 106.5 106.4 106.7 112.2 114.2 115.8 113.1 106.1 152.8
8000 101.1 103.3 104.7 105.9 110.5 110.5 110.5 113.1 114.3 110.7 103.1 98.9 152.3
10000 100.0 102.3 101.5 104.0 106.0 104.7 106.2 110.5 114.3 110.7 103.1 98.9 152.3
12500 98.4 99.7 99.2 102.2 103.9 103.9 104.2 108.2 110.8 111.5 108.9 101.9 150.8
16000 95.2 97.4 96.1 100.2 101.5 102.0 102.8 105.9 109.5 107.3 99.3 94.8 150.4
20000 92.2 94.9 93.8 96.6 99.1 99.8 100.2 103.6 106.7 107.7 104.1 96.6 149.7
25000 89.0 91.1 90.9 92.9 95.5 96.9 97.3 100.1 102.4 103.1 98.9 94.4 148.0
31500 84.6 88.0 86.5 89.5 92.2 92.8 93.3 97.2 99.0 100.3 96.0 90.2 147.9
40000 79.6 83.3 82.4 85.2 88.3 89.2 89.2 93.0 96.0 98.3 93.0 85.7 148.7
50000 74.2 78.6 76.2 80.0 83.7 84.5 86.6 88.2 91.9 93.3 88.6 80.4 148.4
63000 67.8 74.4 70.9 73.9 77.8 79.0 78.4 82.6 86.9 87.3 83.2 74.1 148.2
80000 62.3 67.0 65.6 68.3 72.1 72.4 71.1 76.6 80.3 85.0 78.1 67.7 150.3

QASPL 116.4 117.8 116.0 118.1 118.3 117.2 116.8 120.7 124.9 130.5 130.0 124.4 120.8 166.6
PNL 128.5 130.4 128.8 131.6 131.8 131.1 130.1 133.4 137.4 142.8 141.9 135.4 130.8
PNLT 130.1 130.4 128.8 132.2 132.3 132.2 130.1 133.4 137.4 142.8 141.9 135.4 130.8
DBA 117.1 118.4 116.6 118.6 117.2 116.4 120.3 124.8 130.7 130.0 122.7 117.2

NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH742 TEST DATE = 03-19-82 LOCAT = C41 ANECH CH CNFIO = 1 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 44.00 PAMB HG = 29.55 RELHUM = 92.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIO = ARC MIKE HT = NBFR =

FNINI = LBS XNL RPM XNHR = RPM V8 = 2396.1 FPS AEB = 20.4 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2396.1 FPS AE18 = 0. SQ IN

RUNPT = 82F-400-0112 TAPE = X0112C TEST PT NO = 0112 NC = AE040 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0112 X0112F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

200
150
125
100
80
63
50

91.6 92.6 89.6 91.8 92.2 90.6 89.1 91.3 96.7 103.1 107.4 109.8 110.1 143.6
250 91.8 92.6 89.6 91.8 92.2 90.6 89.1 91.3 96.7 103.1 107.4 109.8 110.1 143.6
315 91.8 92.6 89.6 91.8 92.2 90.6 89.1 91.3 96.7 103.1 107.4 109.8 110.1 143.6
400 92.6 89.6 90.8 92.1 93.2 91.1 91.7 93.9 102.4 111.0 114.5 114.0 110.6 148.7
500 93.5 94.9 91.5 93.2 94.5 92.6 95.7 105.3 114.1 115.9 113.5 110.1 150.1
630 95.1 95.7 92.4 94.2 95.9 94.4 98.3 108.0 116.4 117.6 113.2 111.1 151.6
800 96.2 97.9 94.6 96.3 97.3 96.0 96.4 99.9 110.0 118.7 118.6 114.1 153.3
1000 98.8 97.7 96.8 97.3 99.0 97.9 99.2 102.3 111.5 119.3 119.5 113.6 154.2
1250 102.5 103.0 99.6 101.8 102.2 100.1 99.2 103.6 113.1 119.6 120.9 114.7 155.2
1500 110.5 111.3 105.9 104.8 103.7 102.1 101.2 105.2 113.5 120.6 120.2 115.2 155.8
2000 118.8 116.7 111.9 109.0 110.3 102.1 114.1 120.3 119.0 114.5 116.6 116.6 156.9
2500 119.0 120.3 116.4 115.3 114.7 108.3 103.6 107.9 114.4 119.3 118.2 113.9 158.2
3150 113.8 114.7 113.5 116.0 113.0 113.0 111.4 109.9 111.0 114.5 116.3 114.0 155.0
4000 113.3 114.0 111.9 113.0 111.3 111.4 109.9 111.0 114.5 116.3 114.0 111.0 155.0
5000 112.8 112.7 110.5 112.2 111.3 109.6 111.5 115.1 112.9 107.4 110.2 154.4
6300 110.9 112.0 109.6 110.9 110.5 109.4 108.4 112.3 114.5 115.1 112.9 154.4
8000 109.7 110.7 108.5 110.0 108.7 107.5 110.6 114.4 115.0 111.7 107.2 109.9 154.1
10000 108.2 109.4 106.8 109.2 110.0 107.7 107.9 110.6 112.6 112.9 110.7 109.6 153.5
12500 106.9 108.4 106.8 108.3 108.0 106.9 106.1 108.6 111.6 111.1 109.2 104.3 152.9
15000 104.7 105.3 103.9 105.9 105.5 105.0 104.5 106.1 109.2 109.6 106.4 102.1 152.0
20000 101.1 102.6 100.4 103.5 103.7 102.8 101.8 103.7 106.0 106.3 102.6 101.5 151.0
25000 100.3 101.8 99.2 100.4 100.1 99.9 99.4 100.8 102.9 103.7 99.7 96.9 150.7
31500 96.3 97.2 95.5 96.0 96.8 95.8 95.0 97.4 100.7 102.5 97.5 88.3 150.8
40000 91.1 93.2 90.3 91.7 92.9 91.9 90.9 93.2 97.0 97.9 93.5 88.3 150.5
50000 85.7 88.1 85.8 87.1 88.3 87.5 85.3 88.4 83.0 92.9 89.1 83.0 150.2
63000 79.3 82.7 78.7 80.9 82.4 82.0 80.1 82.8 87.7 92.0 85.3 78.0 151.4
80000 71.5 76.8 71.9 73.3 76.7 75.4 72.6 76.6 77.9 82.1 75.5 68.2 149.8

DBA 194.5 198.8 194.5 196.1 198.6 197.6 195.2 198.7 201.7 205.4 199.0 192.0 190.4
PNLT 138.4 139.6 135.9 135.4 134.5 132.6 130.3 132.3 137.3 141.5 140.6 136.5 138.1
GNL 137.2 138.1 134.7 135.4 134.5 132.6 130.3 132.3 137.3 141.5 140.6 136.5 138.1
GNL 124.4 124.7 121.6 122.3 121.6 119.5 117.9 120.4 125.2 129.6 129.3 125.1 126.1 167.6

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES
NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514

VEHICLE = ADH742 TEST DATE = 03-19-82
IAPLHA = SB59
WIND DIR =
WIND VEL =
VEGA = NO
PWL AREA = FULL SPHERE
EXT DIST = 40.0 FT
CONFID = 1
MODEL = AX
PAMB HG = 29.55
RELHUM = 92.5 PCT
FLVEL = 400. FPS
NBFR =

FNINI = LBS XNL RPM XNHR RPM V8 = 2396.1 FPS AE8 = 20.4 SQ IN
FNRAMB = LBS XNL RPM XNHR RPM V8 = 2396.1 FPS AE8 = 20.4 SQ IN
CORR FAN SPEED = RPM

ORIGINAL PAGE 19
OF POOR QUALITY

HONEYWELL PAGE PRINTING SYSTEM - P118-02

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0112 X01121

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PNL

71.5 74.3 72.3 74.4 75.6 73.9 74.4 76.1 83.9 91.5 93.4 90.7 84.0 167.0

63 72.4 75.3 73.0 75.4 77.1 75.6 75.3 77.9 86.8 94.6 94.8 90.2 83.4 168.4

80 74.0 76.1 73.9 76.4 78.5 77.2 77.0 80.5 89.5 96.8 96.4 84.3 170.0

100 74.9 78.2 76.1 78.4 79.8 78.7 78.9 82.1 91.4 99.0 97.4 90.6 86.8 171.7

125 77.4 79.9 78.1 79.4 81.5 80.5 80.0 84.4 92.9 99.5 98.2 90.0 88.7 172.5

160 80.9 83.1 80.8 83.8 84.6 82.6 81.6 85.5 94.3 99.7 99.3 90.8 89.3 173.6

200 88.7 91.2 87.0 86.6 85.9 84.4 83.4 87.0 94.6 100.4 98.4 91.0 89.0 174.2

250 96.7 96.3 92.7 90.6 92.0 85.7 84.1 87.7 94.8 99.9 96.8 89.8 87.9 175.3

315 96.5 96.6 96.9 96.6 96.4 90.2 85.3 89.2 94.9 98.6 95.7 88.7 86.8 176.5

400 90.8 93.6 93.6 97.0 95.9 94.6 89.2 89.0 94.9 97.4 93.5 86.2 84.0 175.0

500 89.8 92.4 91.7 93.7 92.5 92.7 91.1 91.6 94.3 94.9 91.4 84.5 81.1 173.7

630 88.8 90.8 92.6 92.2 90.0 90.5 91.9 94.6 94.4 90.0 83.0 79.4 173.4

800 86.4 89.7 88.8 91.0 91.2 90.3 89.0 92.4 93.7 92.8 88.4 79.5 172.8

1000 84.8 88.1 87.4 89.9 90.5 89.4 88.0 90.5 93.3 92.4 86.8 78.6 172.4

1250 82.8 86.5 85.5 89.0 90.4 88.3 88.2 90.3 89.9 85.3 77.7 73.4 171.9

1600 80.5 84.8 85.0 87.7 88.0 87.2 86.2 88.0 89.9 87.5 82.9 73.6 171.3

2000 77.4 81.1 81.8 85.1 85.5 84.4 85.3 87.1 85.5 79.1 69.7 62.5 170.4

2500 72.0 77.3 77.5 82.0 83.0 82.5 81.2 82.3 83.0 81.0 73.6 66.4 169.4

3150 67.8 74.0 74.4 77.4 78.1 78.2 77.4 77.8 78.1 75.9 67.2 56.8 169.1

4000 57.7 64.7 66.8 69.7 71.8 71.3 70.1 71.1 72.0 70.0 58.8 44.2 169.1

5000 42.6 53.1 55.4 60.0 62.9 62.5 60.9 61.5 62.1 57.8 45.0 25.6 168.6

6300 19.5 33.8 38.8 44.6 48.2 48.2 45.2 45.9 46.0 38.6 22.8 168.6

8000 3.6 3.6 10.4 19.1 24.2 25.0 21.9 21.1 19.4 12.8 169.8 168.2

10000 3.6 3.6 10.4 19.1 24.2 25.0 21.9 21.1 19.4 12.8 169.8 168.2

12500 3.6 3.6 10.4 19.1 24.2 25.0 21.9 21.1 19.4 12.8 169.8 168.2

16000 3.6 3.6 10.4 19.1 24.2 25.0 21.9 21.1 19.4 12.8 169.8 168.2

20000 3.6 3.6 10.4 19.1 24.2 25.0 21.9 21.1 19.4 12.8 169.8 168.2

25000 3.6 3.6 10.4 19.1 24.2 25.0 21.9 21.1 19.4 12.8 169.8 168.2

31500 3.6 3.6 10.4 19.1 24.2 25.0 21.9 21.1 19.4 12.8 169.8 168.2

40000 3.6 3.6 10.4 19.1 24.2 25.0 21.9 21.1 19.4 12.8 169.8 168.2

50000 3.6 3.6 10.4 19.1 24.2 25.0 21.9 21.1 19.4 12.8 169.8 168.2

63000 3.6 3.6 10.4 19.1 24.2 25.0 21.9 21.1 19.4 12.8 169.8 168.2

80000 3.6 3.6 10.4 19.1 24.2 25.0 21.9 21.1 19.4 12.8 169.8 168.2

QASPL 101.5 103.6 101.6 103.0 102.8 100.7 98.7 100.7 105.2 109.1 107.2 100.3 97.2 185.9

PNLT 107.2 110.4 108.6 110.3 110.2 108.7 106.4 108.7 112.1 113.4 110.2 102.7 99.5

DBA 96.2 98.8 97.6 99.8 99.8 98.3 96.9 98.8 101.3 101.9 98.2 90.7 88.0

MODEL AREA = 131.5 SQ CM (20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

NASA SHOCK CELL/CIRC CONVCONIC NGZ/AX/SC-1/NAS3-22514

VEHICL = ADH742 TEST DATE = 03-19-82
IAPLHA = SB59 IEGA' = NO
WIND DIR = DEG WIND VEL = MPH
LOCAL = C41 ANECH CH CONFIO = 1
PML AREA = FULL SPHERE
EXT DIST = 2400.0 FT
TAMB F = 44.00
EXT CONFIO = SL
MODEL = AX
PAMB HG = 29.55
RELHUM = 92.5 PCT
FLTVEL = 400. FPS
NBFR =

FNINI = LBS XNL RPM XNHR XNH RPM V8 = 2396.1 FPS AE8 = 20.4 SQ IN
FNRAMB = LBS XNLR RPM XNHR XNH RPM V8 = 2396.1 FPS AE8 = 20.4 SQ IN

RUNPT : -400-0112 TAPE = X01121 TEST PT NG = 011 NC = AE040 CORR FAN SPEED = RPF

ORIGINAL PAGE IS
OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0113 X0113C

BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 85.4 90.5 87.5 84.6 82.2 86.1 86.0 88.7 92.6 91.4 98.1 93.3 132.0

63 89.0 94.8 88.8 92.6 90.8 93.4 89.1 92.8 93.1 93.7 98.7 96.6 135.2

80 90.3 95.6 90.1 92.9 92.0 92.6 94.4 95.6 94.4 97.5 99.5 100.4 136.8

100 88.8 94.8 90.1 94.2 94.7 93.9 96.4 97.4 98.4 99.6 103.5 104.4 139.3

125 87.4 89.1 90.4 94.4 94.8 94.4 93.5 94.7 96.4 99.0 105.9 107.5 142.0

160 86.0 86.6 86.6 86.6 90.4 90.7 91.1 92.7 93.4 96.1 100.9 106.0 142.9

200 88.8 88.8 88.1 91.4 93.2 93.3 93.7 96.6 101.3 103.4 108.3 112.0 145.7

250 88.3 91.6 90.3 93.3 93.2 93.8 95.0 99.1 102.8 109.1 113.3 116.2 149.5

315 88.6 91.4 89.9 92.9 95.0 95.4 96.5 99.2 105.6 110.7 115.1 117.3 150.8

400 90.1 93.6 91.1 94.7 95.3 94.9 97.3 100.2 108.4 115.4 118.3 118.5 153.0

500 91.7 94.7 91.7 95.5 96.4 97.0 97.6 102.8 110.5 118.1 120.2 118.6 154.5

630 93.0 93.6 93.6 97.4 98.2 98.6 99.5 105.1 113.4 121.2 121.1 119.0 156.1

800 97.2 97.2 96.2 99.0 99.4 100.0 101.9 106.8 115.7 122.6 121.4 119.6 157.2

1000 102.9 104.7 100.2 102.0 101.6 101.7 103.1 109.0 116.7 123.8 121.7 119.4 158.0

1250 114.7 115.2 110.3 107.3 108.1 104.8 106.9 112.0 118.5 126.6 127.2 117.7 161.7

1500 110.7 109.5 110.6 107.9 104.8 105.8 111.1 117.7 123.0 119.5 116.1 112.3 157.5

2000 110.6 112.0 109.5 110.6 107.9 104.8 105.8 111.1 117.7 123.0 119.5 116.1 157.5

2500 109.1 109.4 108.0 112.7 114.6 110.7 106.6 112.0 117.1 122.6 119.2 114.5 157.5

3150 107.7 109.1 106.8 109.9 111.7 111.5 108.6 112.4 117.4 121.3 117.5 112.9 156.5

4000 105.0 107.6 106.3 109.1 108.1 109.6 110.0 113.3 116.4 120.4 116.1 111.4 155.7

5000 104.2 106.5 104.6 107.6 109.0 107.7 108.4 108.0 113.2 118.1 113.1 108.9 154.4

6300 102.4 105.4 104.1 106.8 107.4 108.4 108.0 113.2 118.1 113.1 108.9 104.9 154.3

8000 80.9 85.5 85.4 88.0 91.3 91.6 91.0 95.3 97.7 100.5 94.0 89.5 150.9

10000 99.7 103.0 102.0 105.5 107.0 107.0 107.2 111.2 113.4 116.5 110.9 106.4 153.5

12500 98.4 100.7 99.9 102.9 105.2 105.2 105.7 109.4 109.2 114.3 109.4 99.2 152.5

15000 95.4 97.6 101.2 103.3 103.2 103.6 107.7 110.5 112.0 108.0 101.8 96.0 151.9

20000 92.2 96.2 95.1 98.3 100.8 101.3 101.2 105.3 107.7 110.4 105.6 99.8 151.5

25000 89.0 93.4 92.6 95.2 98.0 98.6 98.3 101.8 102.9 105.6 99.6 89.1 149.6

31500 85.1 89.7 89.3 92.5 94.5 94.6 98.2 100.0 103.6 97.5 93.4 85.0 149.9

40000 80.9 85.5 85.4 88.0 91.3 91.6 91.0 95.3 97.7 100.5 94.0 89.5 150.9

50000 77.4 81.5 80.0 83.0 86.2 87.0 86.4 90.0 94.1 95.3 90.1 84.7 150.6

63000 72.3 76.1 74.9 77.4 81.3 82.5 82.1 85.6 89.1 89.8 85.4 80.1 150.9

80000 65.5 70.3 70.6 71.8 75.8 76.9 76.3 80.8 84.0 86.8 80.3 72.7 153.2

DBA 119.8 120.7 117.7 119.7 120.4 119.0 118.5 123.0 128.1 133.6 132.2 128.5 125.4

PWL 130.4 131.6 129.6 134.9 132.6 132.0 136.0 140.5 146.2 144.8 140.6 137.8

NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514

VEHICLE = ADH736 TEST DATE = 03-19-82
LCLAT = C41 ANECH CH CNF16 = 1
TAMB F = 44.00
EXT CNF16 = ARC
MIKE HT = 29.55
RELHUM = 92.5 PCT
FLTVL = 0. FPS
WIND DIR = SB59
DEG WIND VEL = NO
MPH
EXT DIST = 40.0 FT
PWL AREA = FULL SPHERE
CNF16 = 1
MODEL = AX
PAMB HG = 29.55
NBFR = 0. FPS
FNRAMB = LBS XNLR = LBS XNLR = RPM XNHR = RPM V8 = 2403.0 FPS AE8 = 20.4 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2403.0 FPS AE8 = 20.4 SQ IN
CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0113 X0113F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PWL | 85.4 | 90.5 | 87.5 | 84.6 | 82.2 | 86.1 | 86.0 | 88.7 | 92.6 | 91.4 | 98.1 | 93.3 | 132.0 |
| 50 | 85.4 | 90.5 | 87.5 | 84.6 | 82.2 | 86.1 | 86.0 | 88.7 | 92.6 | 91.4 | 98.1 | 93.3 | 132.0 |
| 63 | 89.0 | 94.6 | 88.8 | 92.6 | 92.7 | 90.8 | 93.4 | 89.1 | 92.8 | 93.1 | 93.7 | 98.7 | 96.6 |
| 80 | 90.3 | 95.6 | 90.1 | 92.9 | 92.6 | 92.5 | 94.4 | 95.6 | 94.4 | 97.5 | 99.5 | 100.4 | 136.8 |
| 100 | 88.6 | 94.6 | 90.1 | 94.2 | 94.7 | 93.9 | 93.7 | 96.4 | 97.4 | 98.4 | 99.6 | 103.5 | 104.4 |
| 125 | 87.4 | 89.1 | 90.4 | 94.4 | 94.6 | 94.4 | 93.5 | 94.7 | 96.4 | 99.0 | 105.9 | 107.5 | 142.0 |
| 150 | 86.0 | 86.6 | 88.6 | 90.4 | 90.7 | 91.1 | 92.7 | 93.4 | 96.1 | 100.9 | 106.0 | 111.1 | 142.9 |
| 200 | 86.8 | 88.8 | 88.1 | 91.4 | 93.2 | 93.3 | 93.7 | 96.6 | 101.3 | 103.4 | 108.3 | 112.0 | 145.7 |
| 250 | 88.3 | 91.8 | 90.3 | 93.9 | 93.2 | 93.8 | 95.0 | 99.1 | 102.8 | 109.1 | 113.3 | 116.2 | 149.5 |
| 315 | 88.6 | 91.4 | 89.9 | 92.9 | 95.0 | 95.4 | 96.5 | 99.2 | 105.6 | 110.7 | 115.1 | 117.3 | 150.8 |
| 400 | 90.1 | 93.6 | 91.1 | 94.7 | 95.3 | 94.9 | 97.3 | 100.2 | 108.4 | 115.4 | 118.3 | 118.5 | 153.0 |
| 500 | 91.7 | 94.7 | 91.7 | 95.5 | 96.4 | 97.0 | 97.6 | 102.8 | 110.5 | 118.1 | 120.2 | 118.6 | 154.5 |
| 630 | 93.0 | 96.3 | 93.6 | 97.4 | 98.2 | 98.6 | 99.5 | 105.1 | 113.4 | 121.2 | 121.1 | 119.0 | 156.1 |
| 800 | 97.2 | 99.2 | 96.2 | 99.0 | 100.0 | 101.9 | 106.8 | 115.7 | 122.6 | 121.4 | 119.6 | 117.0 | 157.2 |
| 1000 | 102.9 | 104.7 | 100.2 | 102.0 | 101.6 | 101.7 | 103.1 | 109.0 | 116.7 | 123.8 | 121.7 | 119.4 | 158.0 |
| 1250 | 114.7 | 115.2 | 110.3 | 107.3 | 108.1 | 104.8 | 106.9 | 112.0 | 118.5 | 126.6 | 127.2 | 121.9 | 161.7 |
| 1500 | 109.1 | 109.4 | 108.0 | 112.7 | 114.6 | 110.7 | 106.6 | 112.0 | 117.1 | 122.6 | 119.2 | 114.5 | 157.5 |
| 2000 | 110.6 | 112.0 | 109.5 | 110.6 | 107.9 | 104.8 | 105.8 | 111.1 | 117.7 | 123.0 | 119.5 | 112.3 | 157.5 |
| 2500 | 109.1 | 109.4 | 108.0 | 112.7 | 114.6 | 110.7 | 106.6 | 112.0 | 117.1 | 122.6 | 119.2 | 114.5 | 157.5 |
| 3150 | 107.7 | 109.1 | 106.8 | 109.9 | 111.7 | 111.5 | 108.6 | 112.4 | 117.4 | 121.3 | 117.5 | 112.9 | 156.5 |
| 4000 | 105.0 | 107.8 | 106.3 | 109.1 | 108.1 | 109.6 | 110.0 | 113.3 | 116.4 | 120.4 | 116.1 | 111.4 | 155.7 |
| 5000 | 104.2 | 106.5 | 107.6 | 109.0 | 107.7 | 109.1 | 112.9 | 115.4 | 118.3 | 114.1 | 110.4 | 106.1 | 154.4 |
| 6300 | 102.4 | 105.4 | 104.1 | 106.8 | 107.7 | 108.4 | 108.0 | 113.7 | 115.2 | 118.1 | 113.1 | 108.9 | 154.3 |
| 8000 | 101.4 | 103.8 | 102.8 | 106.2 | 107.4 | 106.7 | 106.9 | 111.8 | 114.3 | 116.3 | 112.3 | 106.8 | 153.3 |
| 10000 | 99.7 | 100.7 | 102.0 | 105.5 | 107.0 | 107.2 | 111.2 | 113.4 | 116.5 | 110.9 | 106.4 | 102.1 | 153.5 |
| 12500 | 98.4 | 100.7 | 99.9 | 102.9 | 105.2 | 105.7 | 105.2 | 109.4 | 112.0 | 114.3 | 109.4 | 104.9 | 152.5 |
| 16000 | 95.4 | 98.4 | 97.6 | 101.2 | 103.3 | 103.6 | 107.7 | 110.5 | 112.0 | 108.0 | 101.8 | 96.0 | 151.9 |
| 20000 | 92.2 | 96.2 | 95.1 | 98.3 | 100.8 | 101.3 | 101.2 | 105.3 | 107.7 | 110.4 | 105.6 | 99.8 | 151.5 |
| 25000 | 89.0 | 93.4 | 92.6 | 98.0 | 98.6 | 98.3 | 101.8 | 102.9 | 105.6 | 99.6 | 93.6 | 89.1 | 149.6 |
| 31500 | 85.1 | 89.7 | 89.3 | 92.5 | 94.5 | 94.6 | 94.6 | 98.2 | 100.0 | 97.5 | 93.4 | 85.0 | 149.9 |
| 40000 | 80.9 | 85.5 | 85.4 | 88.0 | 91.3 | 91.6 | 91.0 | 95.3 | 97.7 | 100.5 | 94.0 | 89.5 | 150.9 |
| 50000 | 77.4 | 81.5 | 80.0 | 83.0 | 86.2 | 87.0 | 86.4 | 90.0 | 94.1 | 95.3 | 90.1 | 84.7 | 150.6 |
| 63000 | 72.3 | 76.1 | 74.9 | 77.4 | 81.3 | 82.5 | 82.1 | 85.6 | 89.1 | 89.8 | 85.4 | 80.1 | 150.9 |
| 80000 | 65.5 | 70.3 | 70.6 | 71.8 | 75.8 | 76.9 | 76.3 | 80.8 | 84.0 | 86.8 | 80.3 | 72.7 | 153.2 |
| QASPL | 119.1 | 120.1 | 117.2 | 119.3 | 120.1 | 119.0 | 118.7 | 123.2 | 128.0 | 133.5 | 132.3 | 129.4 | 169.3 |
| PWL | 130.4 | 131.8 | 129.6 | 132.9 | 134.0 | 132.6 | 132.0 | 136.0 | 140.5 | 145.1 | 143.0 | 139.5 | 136.7 |
| PWL | 133.0 | 135.0 | 131.9 | 134.3 | 135.7 | 132.6 | 132.0 | 136.0 | 140.5 | 146.2 | 144.8 | 140.6 | 137.8 |
| DBA | 187.8 | 192.2 | 192.0 | 193.7 | 197.6 | 198.6 | 198.1 | 202.3 | 205.7 | 207.9 | 201.9 | 195.2 | 187.7 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH736 TEST DATE = 03-19-82 LOCAL = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS
WIND DIR = 8595 DEG WIND VEL = 0 MPH EXT DIST = 40.0 FT TAMB F = 41.00 MIKE HT = 29.55 RELHUM = 92.5 PCT
FNRAMB = LBS XNL RPM XNHR = RPM V8 = 2403.0 FPS AE18 = 20.4 SQ IN

RUNPT = 8; R-0113 TAPE = X0113F TEST PT NO = 0113 NC = AE040 CORR FAN SPEED = RPM
FNINI = LBS XNL RPM XNHR = RPM V8 = 2403.0 FPS AE18 = 20.4 SQ IN

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0113 X01131

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 69.0 74.1 72.7 76.9 77.9 77.7 79.9 82.4 89.9 95.9 97.3 95.2 89.3 171.4

63 70.6 75.2 73.3 77.8 79.0 79.8 80.3 85.0 92.0 98.5 99.1 95.3 88.9 172.9

80 71.9 76.7 75.1 79.6 80.8 81.3 82.1 87.3 94.8 101.6 99.9 95.6 89.1 174.5

100 76.0 77.6 77.7 81.2 81.9 82.7 84.4 88.9 97.2 102.9 100.2 96.1 90.1 175.6

125 81.6 85.0 81.6 84.1 84.1 84.4 85.6 91.1 98.1 104.1 100.4 95.7 89.1 176.3

160 93.2 95.3 91.5 89.2 90.5 87.3 89.3 94.0 99.7 106.7 105.7 98.0 91.1 180.1

200 88.9 89.4 87.3 87.6 86.6 86.1 87.3 92.2 99.1 102.5 100.0 93.5 86.2 176.1

250 88.5 91.6 90.2 92.2 89.9 86.9 87.8 92.7 98.5 102.6 97.4 91.5 83.7 175.9

315 86.6 88.7 88.4 94.0 96.3 92.6 88.4 93.3 97.6 101.9 96.6 89.3 81.3 175.9

400 84.7 87.9 87.0 90.8 93.1 93.1 90.1 93.3 97.6 100.1 94.5 87.1 79.7 174.9

500 81.5 86.2 86.1 89.7 89.3 90.9 91.2 94.0 96.2 98.8 92.6 85.0 76.8 174.0

630 80.2 84.6 84.0 88.0 89.9 88.8 90.0 93.3 94.9 96.4 90.1 83.2 73.7 172.8

800 77.9 83.1 83.2 86.9 88.4 89.3 88.6 93.8 94.3 95.8 88.6 81.0 71.2 172.7

1000 76.4 81.2 81.7 86.1 87.9 87.4 87.4 91.7 93.2 93.7 87.4 78.3 69.4 171.7

1250 74.3 80.1 80.7 85.3 87.4 87.5 87.6 91.0 92.1 93.6 85.5 77.0 65.9 171.9

1600 72.1 77.1 78.2 82.3 85.3 86.0 85.3 88.8 90.3 90.7 83.1 74.2 60.6 170.8

2000 68.2 74.3 75.5 80.4 83.2 83.4 83.5 86.9 88.4 87.8 80.8 69.5 54.4 170.3

2500 63.1 70.8 72.1 76.9 80.2 81.0 80.5 83.9 84.8 85.0 76.6 64.6 46.6 169.8

3150 56.6 65.6 67.8 72.2 76.0 76.9 76.3 78.8 78.0 77.8 67.2 56.5 34.2 168.0

4000 46.4 57.2 60.6 66.2 69.5 70.0 69.6 71.9 71.4 71.0 58.8 44.4 15.6 168.3

5000 32.5 45.5 50.5 56.3 61.3 62.2 61.0 63.6 62.6 60.5 45.6 26.7 169.2

6300 11.2 27.2 33.0 40.5 46.1 47.7 46.3 47.5 47.1 41.0 23.8 169.9

8000 6.6 15.7 23.1 25.5 23.9 23.8 20.8 10.7 169.3

10000 171.6

12500

15000

20000

25000

31500

40000

50000

63000

80000

GASPL 96.9 99.4 97.6 100.2 101.5 100.3 99.8 103.9 108.4 113.0 110.4 104.8 98.2 187.5

PNL 100.1 103.5 102.6 106.5 108.5 107.5 106.8 110.5 113.7 116.9 113.2 106.1 98.2

PNLT 101.4 105.2 103.7 107.3 109.4 107.5 106.8 110.5 114.3 117.5 114.1 106.6 98.8

DBA 88.8 92.4 91.9 95.8 97.5 97.2 96.7 100.5 102.7 105.0 99.7 92.5 84.7

MODEL AREA = 131.5 SQ CM (20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH736 TEST DATE = 03-19-82

IAPLHA = SB59

WIND DIR = SB59

FNIN1 = LBS XNL = RPM XNHR = RPM V8 = 2403.0 FPS AEB = 20.4 SQ IN

RUNPT = 82F-ZER-0113 TAPE = X01131 TEST PT NO = 0113 NC = AE040 CORR FAN SPEED = RPM

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OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0114 X0114C
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PWL | 89.9 | 90.7 | 90.2 | 88.8 | 89.6 | 87.2 | 89.9 | 87.8 | 90.2 | 98.6 | 98.2 | 98.1 | 96.3 |
| 63 | 91.3 | 93.8 | 92.7 | 91.0 | 93.7 | 89.1 | 93.8 | 89.1 | 93.8 | 98.7 | 97.3 | 97.3 | 93.9 |
| 80 | 91.0 | 94.6 | 92.9 | 92.2 | 92.3 | 91.7 | 93.4 | 95.1 | 93.9 | 97.8 | 99.0 | 100.1 | 136.5 |
| 100 | 88.6 | 93.3 | 88.6 | 92.7 | 93.2 | 92.9 | 93.0 | 95.9 | 95.6 | 97.8 | 103.0 | 104.4 | 138.3 |
| 125 | 87.6 | 88.9 | 89.9 | 93.2 | 94.0 | 93.4 | 92.5 | 93.4 | 94.7 | 96.0 | 103.6 | 108.5 | 140.9 |
| 160 | 85.3 | 84.6 | 87.1 | 88.5 | 88.8 | 90.0 | 90.4 | 93.3 | 98.4 | 103.8 | 107.0 | 109.6 | 141.2 |
| 200 | 86.0 | 86.8 | 85.3 | 88.1 | 89.7 | 89.6 | 90.7 | 93.9 | 98.8 | 100.2 | 105.5 | 110.0 | 143.5 |
| 250 | 84.5 | 87.3 | 85.3 | 89.4 | 89.7 | 89.8 | 91.2 | 95.6 | 98.3 | 105.4 | 110.3 | 113.5 | 146.5 |
| 315 | 85.3 | 88.1 | 85.9 | 89.9 | 90.5 | 90.9 | 93.0 | 94.9 | 101.4 | 107.4 | 112.6 | 114.5 | 147.9 |
| 400 | 87.1 | 89.1 | 86.9 | 90.9 | 91.5 | 91.1 | 93.5 | 96.2 | 103.1 | 111.2 | 115.3 | 119.2 | 149.5 |
| 500 | 87.7 | 90.5 | 88.0 | 92.0 | 92.6 | 92.7 | 94.6 | 98.5 | 105.0 | 114.1 | 117.9 | 115.6 | 151.2 |
| 630 | 89.3 | 91.8 | 89.6 | 92.9 | 93.5 | 94.6 | 95.7 | 100.9 | 107.9 | 117.2 | 118.8 | 114.7 | 152.5 |
| 800 | 91.9 | 92.5 | 91.5 | 94.5 | 94.9 | 95.7 | 98.1 | 102.5 | 110.0 | 119.1 | 119.7 | 113.4 | 153.6 |
| 1000 | 98.7 | 99.2 | 96.7 | 99.5 | 97.6 | 97.5 | 99.4 | 104.5 | 111.7 | 120.3 | 120.9 | 113.1 | 154.9 |
| 1250 | 104.7 | 107.0 | 102.3 | 102.3 | 100.9 | 99.8 | 100.4 | 105.8 | 113.0 | 121.6 | 121.2 | 112.1 | 156.8 |
| 1600 | 111.7 | 111.3 | 107.3 | 105.8 | 101.9 | 102.4 | 107.7 | 114.3 | 121.1 | 122.5 | 112.7 | 106.7 | 156.6 |
| 2000 | 109.4 | 112.8 | 110.2 | 111.1 | 107.4 | 102.8 | 103.0 | 108.1 | 114.2 | 121.5 | 121.0 | 112.3 | 156.5 |
| 2500 | 107.4 | 108.7 | 107.7 | 111.5 | 112.6 | 107.4 | 103.6 | 109.2 | 113.9 | 121.4 | 119.2 | 111.0 | 156.0 |
| 3150 | 105.7 | 108.1 | 105.6 | 110.7 | 110.9 | 107.6 | 110.1 | 115.2 | 119.5 | 117.5 | 110.2 | 104.4 | 155.1 |
| 4000 | 106.8 | 106.8 | 107.6 | 106.9 | 108.6 | 109.7 | 112.1 | 114.4 | 119.1 | 115.9 | 108.2 | 103.2 | 154.4 |
| 5000 | 104.0 | 106.0 | 104.3 | 106.1 | 106.8 | 106.5 | 108.1 | 111.9 | 114.4 | 116.8 | 115.1 | 106.9 | 153.4 |
| 6300 | 102.4 | 105.1 | 103.6 | 105.6 | 106.2 | 106.4 | 106.5 | 112.9 | 114.7 | 116.3 | 113.6 | 105.9 | 153.3 |
| 8000 | 101.6 | 103.5 | 101.8 | 104.4 | 105.7 | 105.9 | 111.5 | 114.3 | 114.8 | 112.3 | 104.1 | 99.9 | 152.6 |
| 10000 | 100.2 | 103.0 | 101.5 | 103.8 | 105.2 | 105.0 | 105.7 | 111.0 | 113.4 | 115.0 | 111.4 | 103.4 | 152.6 |
| 12500 | 98.6 | 100.7 | 99.4 | 101.9 | 103.7 | 103.9 | 103.7 | 109.2 | 111.5 | 112.5 | 109.7 | 102.4 | 151.5 |
| 16000 | 96.2 | 98.4 | 97.1 | 99.9 | 101.0 | 101.7 | 102.3 | 107.2 | 109.8 | 110.2 | 107.5 | 100.0 | 150.8 |
| 20000 | 94.3 | 96.8 | 99.1 | 99.3 | 99.9 | 99.9 | 104.3 | 107.2 | 108.7 | 104.9 | 97.5 | 91.9 | 150.2 |
| 25000 | 92.4 | 94.4 | 93.4 | 93.4 | 96.0 | 96.6 | 97.0 | 101.6 | 103.4 | 103.9 | 99.6 | 88.3 | 148.8 |
| 31500 | 84.8 | 88.7 | 87.8 | 90.0 | 92.7 | 92.8 | 93.3 | 97.7 | 100.0 | 101.8 | 96.7 | 83.7 | 148.8 |
| 40000 | 80.6 | 83.8 | 84.4 | 85.0 | 88.8 | 88.6 | 89.7 | 93.8 | 96.2 | 98.5 | 86.2 | 78.9 | 149.1 |
| 50000 | 74.9 | 79.3 | 77.7 | 79.5 | 82.9 | 84.2 | 83.6 | 88.7 | 92.1 | 93.3 | 89.1 | 80.9 | 148.6 |
| 63000 | 68.6 | 73.9 | 72.2 | 73.9 | 77.5 | 78.8 | 78.1 | 83.6 | 86.9 | 89.6 | 84.2 | 74.6 | 149.2 |
| 80000 | 63.0 | 68.0 | 67.8 | 69.1 | 71.1 | 72.6 | 72.1 | 77.3 | 82.0 | 86.8 | 78.8 | 68.5 | 151.8 |
| DBA | 117.6 | 119.2 | 116.8 | 118.6 | 118.6 | 117.3 | 116.8 | 121.0 | 125.1 | 131.1 | 130.6 | 123.3 | 117.4 |
| PWL | 130.4 | 131.2 | 128.9 | 131.5 | 133.1 | 131.8 | 130.7 | 134.1 | 138.5 | 143.2 | 142.3 | 135.8 | 130.9 |
| QASPL | 116.9 | 118.6 | 116.2 | 118.1 | 118.2 | 117.3 | 117.0 | 121.5 | 125.3 | 130.8 | 130.6 | 125.0 | 121.1 |

NASA SHOCK CELL/CIRC CONVCNOC NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH741 TEST DATE = 03-19-82 LOCAL = C41 ANECH CH CNFIO = 1 MODEL = AX FLTVEL = 400. FPS
 IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 44.00 PAMB HG = 29.55 RELHUM = 92.5 PCT
 WIND DIR = DEQ WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIO = ARC MIKE HT = NBRF =
 FNINI = LBS XNL RPM XNH RPM = = = = = V8 = 2409.9 FPS AEB = 20.4 SQ IN
 FNRAMB = LBS XNLR RPM XNHR RPM = = = = = V18 = 2409.9 FPS AE18 = 0. SQ IN
 RUNPT = 22F-400-0114 TAPE = X0114C TEST PT NO = 0114 NC = AE040 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

DATPROC - FLTRAN

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0114 X0114F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 |
|------|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|
| PWL | | | | | | | | | | | | |

ORIGINAL PAGE 3
OF POOR QUALITY

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 200 | 91.6 | 93.3 | 90.0 | 92.5 | 91.2 | 89.8 | 89.3 | 92.0 | 97.9 | 103.1 | 107.7 | 110.1 | 110.6 | 143.9 |
| 250 | 91.6 | 93.3 | 90.0 | 92.5 | 91.1 | 91.7 | 92.1 | 101.1 | 108.5 | 112.3 | 113.1 | 111.6 | 147.2 | |
| 315 | 91.6 | 93.3 | 90.0 | 92.5 | 93.2 | 93.3 | 93.2 | 94.4 | 102.8 | 111.4 | 115.4 | 114.6 | 149.3 | |
| 400 | 92.8 | 94.4 | 90.7 | 93.3 | 94.1 | 93.6 | 93.6 | 96.3 | 105.6 | 114.4 | 116.2 | 114.3 | 150.4 | |
| 500 | 93.8 | 94.9 | 91.4 | 94.1 | 94.5 | 93.1 | 93.6 | 96.3 | 105.6 | 114.4 | 116.2 | 114.3 | 150.4 | |
| 630 | 94.9 | 96.6 | 92.8 | 95.4 | 95.0 | 94.7 | 98.5 | 108.0 | 116.6 | 117.6 | 119.7 | 115.2 | 151.9 | |
| 800 | 96.4 | 97.9 | 94.4 | 96.2 | 96.8 | 96.2 | 97.1 | 100.2 | 110.3 | 116.5 | 117.6 | 114.0 | 151.9 | |
| 1000 | 98.6 | 99.2 | 96.1 | 97.8 | 99.2 | 98.1 | 98.5 | 102.3 | 111.7 | 120.0 | 120.2 | 114.5 | 154.8 | |
| 1250 | 104.9 | 104.3 | 100.6 | 102.2 | 102.7 | 100.6 | 99.7 | 103.8 | 113.3 | 119.9 | 121.8 | 115.4 | 155.8 | |
| 1500 | 111.9 | 113.0 | 106.8 | 104.2 | 102.6 | 101.9 | 105.9 | 113.6 | 120.6 | 120.7 | 115.5 | 114.3 | 156.2 | |
| 2000 | 119.3 | 117.7 | 112.4 | 109.5 | 110.3 | 104.1 | 102.9 | 113.5 | 120.8 | 119.1 | 114.3 | 116.4 | 157.3 | |
| 2500 | 119.6 | 121.3 | 116.9 | 115.8 | 115.5 | 109.0 | 103.8 | 108.1 | 115.4 | 119.5 | 118.1 | 114.3 | 158.7 | |
| 3150 | 114.6 | 115.0 | 113.0 | 111.5 | 111.2 | 108.3 | 109.5 | 115.2 | 119.4 | 116.6 | 112.0 | 114.3 | 156.8 | |
| 4000 | 113.3 | 114.7 | 111.1 | 112.7 | 110.5 | 111.2 | 108.9 | 111.9 | 115.2 | 117.1 | 115.8 | 112.8 | 155.7 | |
| 5000 | 112.2 | 113.1 | 110.8 | 112.1 | 110.7 | 109.5 | 109.5 | 111.9 | 115.5 | 116.7 | 114.3 | 109.5 | 155.2 | |
| 6300 | 110.9 | 112.4 | 109.9 | 110.8 | 110.3 | 109.4 | 108.0 | 112.9 | 115.3 | 115.4 | 113.2 | 107.9 | 154.7 | |
| 8000 | 109.7 | 111.7 | 109.2 | 110.3 | 109.7 | 107.5 | 111.6 | 114.6 | 115.7 | 112.5 | 107.4 | 109.6 | 154.5 | |
| 10000 | 108.7 | 109.9 | 107.3 | 108.9 | 109.3 | 108.0 | 107.3 | 111.0 | 113.0 | 113.5 | 111.0 | 106.7 | 153.7 | |
| 12500 | 107.1 | 109.1 | 106.8 | 108.0 | 107.7 | 106.9 | 105.3 | 109.3 | 111.8 | 111.8 | 109.4 | 104.9 | 153.1 | |
| 15000 | 105.0 | 106.3 | 104.1 | 105.6 | 104.7 | 103.9 | 107.3 | 109.7 | 110.6 | 107.1 | 102.8 | 104.1 | 152.4 | |
| 20000 | 102.1 | 103.6 | 101.4 | 103.3 | 103.1 | 102.3 | 101.6 | 104.4 | 106.6 | 106.5 | 102.6 | 101.2 | 151.2 | |
| 25000 | 97.7 | 100.5 | 98.0 | 99.5 | 100.1 | 99.6 | 98.8 | 101.9 | 103.9 | 105.2 | 100.4 | 97.4 | 150.9 | |
| 31500 | 93.8 | 96.2 | 94.3 | 95.4 | 97.3 | 95.8 | 95.0 | 97.9 | 100.9 | 102.7 | 98.2 | 93.7 | 150.8 | |
| 40000 | 91.3 | 94.0 | 91.6 | 92.2 | 93.4 | 91.6 | 91.4 | 93.9 | 97.2 | 97.9 | 94.0 | 88.8 | 150.9 | |
| 50000 | 86.7 | 88.6 | 87.8 | 86.8 | 87.5 | 87.2 | 85.3 | 88.9 | 92.9 | 95.1 | 90.0 | 83.4 | 150.9 | |
| 63000 | 80.1 | 83.2 | 80.2 | 80.4 | 82.1 | 81.8 | 79.7 | 83.7 | 89.4 | 93.7 | 86.1 | 78.7 | 152.6 | |
| 80000 | 72.2 | 76.3 | 73.2 | 73.3 | 75.7 | 75.6 | 73.6 | 77.3 | 79.6 | 83.9 | 76.2 | 68.9 | 150.7 | |
| QASPL | 124.8 | 125.6 | 121.8 | 122.3 | 121.5 | 119.6 | 118.0 | 121.1 | 125.5 | 130.0 | 129.8 | 125.5 | 126.1 | 168.0 |
| PNL | 137.7 | 139.0 | 135.0 | 135.3 | 134.4 | 132.7 | 130.9 | 133.1 | 137.7 | 142.0 | 140.8 | 136.8 | 138.0 | |
| PNLT | 138.8 | 140.6 | 136.4 | 136.3 | 135.5 | 132.7 | 130.9 | 133.1 | 137.7 | 142.0 | 140.8 | 136.8 | 138.0 | |
| DBA | 195.2 | 198.7 | 195.9 | 195.9 | 195.9 | 197.9 | 197.7 | 195.7 | 199.5 | 203.1 | 207.2 | 199.8 | 192.7 | 191.0 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRC CONVCONIC NO2/AX/SC-1/NAS3-22514

| | | | | | |
|-----------------|----------------------|------------------------|--------------------|------------------|-------------------|
| VEHICL = ADH741 | TEST DATE = 03-19-82 | LOCAL = C41 ANECH CH | CONFIG = 1 | MODEL = AX | FLVEL = 400. FPS |
| IAPLHA = SB59 | IEGA = NO | PWL AREA = FULL SPHERE | TAMB F = 41.00 | PAMB HG = 29.55 | RELHUM = 92.5 PCT |
| WIND DIR = | DEG WIND VEL = | MPH | EXT DIST = 40.0 FT | EXT CONFIG = ARC | MIKE HT = |
| FNIN1 = | LBS XNL | RPM | XNH | RPM | V8 |
| FNAMB = | LBS XNLR | RPM | XNHR | RPM | V18 |
| | | | | | FPS AE8 |
| | | | | | FPS AE18 |
| | | | | | 20.4 SQ IN |
| | | | | | 0. SQ IN |

CORR FAN SPEED =

RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0119 X0119F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|--|----------------------|----------------------|------------------------|------------|------------------|-------------------|---------|----------------|-----------------|-----------|-------------|-------------|--------------------|
| PWL | 94.3 | 88.7 | 85.7 | 86.0 | 87.1 | 83.0 | 83.4 | 84.8 | 92.5 | 92.6 | 92.9 | 95.1 | 94.3 |
| 50 | 88.7 | 91.5 | 90.8 | 92.6 | 92.4 | 89.8 | 94.2 | 87.8 | 95.5 | 93.4 | 94.5 | 97.2 | 97.1 |
| 60 | 90.8 | 95.3 | 89.8 | 92.6 | 92.7 | 93.3 | 93.0 | 94.4 | 96.8 | 94.7 | 98.3 | 100.2 | 100.9 |
| 80 | 90.8 | 95.3 | 89.8 | 92.6 | 92.7 | 93.3 | 93.0 | 94.4 | 96.8 | 94.7 | 98.3 | 100.2 | 100.9 |
| 100 | 89.1 | 95.6 | 90.6 | 94.7 | 95.5 | 94.9 | 94.2 | 98.2 | 98.1 | 98.4 | 99.3 | 104.0 | 104.9 |
| 125 | 87.1 | 93.9 | 89.1 | 90.6 | 91.2 | 94.9 | 95.5 | 94.8 | 95.4 | 97.7 | 99.0 | 105.9 | 106.0 |
| 150 | 86.8 | 87.6 | 89.1 | 90.6 | 91.5 | 91.3 | 93.0 | 94.4 | 97.6 | 101.2 | 106.0 | 109.2 | 111.9 |
| 200 | 89.0 | 88.8 | 88.8 | 92.1 | 94.0 | 93.6 | 94.2 | 96.9 | 102.6 | 103.9 | 108.5 | 112.5 | 113.9 |
| 250 | 88.5 | 92.1 | 90.3 | 93.9 | 94.0 | 95.5 | 99.9 | 103.6 | 109.1 | 113.8 | 116.5 | 116.1 | 149.9 |
| 315 | 89.1 | 91.6 | 89.6 | 93.2 | 95.3 | 95.4 | 96.5 | 99.4 | 106.1 | 110.7 | 115.3 | 117.8 | 151.3 |
| 400 | 90.8 | 92.9 | 90.9 | 94.4 | 95.8 | 94.9 | 97.5 | 100.9 | 108.4 | 114.9 | 118.3 | 119.3 | 153.3 |
| 500 | 91.4 | 94.5 | 91.5 | 94.8 | 96.9 | 96.7 | 97.4 | 102.8 | 110.5 | 117.3 | 120.1 | 119.1 | 154.5 |
| 600 | 93.3 | 96.1 | 93.6 | 96.6 | 98.0 | 98.3 | 99.5 | 105.1 | 113.6 | 120.4 | 121.1 | 120.0 | 156.1 |
| 800 | 97.7 | 97.7 | 95.5 | 98.5 | 99.6 | 99.7 | 101.4 | 106.8 | 116.2 | 122.3 | 121.4 | 119.6 | 157.2 |
| 1000 | 102.4 | 104.7 | 100.0 | 101.8 | 101.6 | 101.5 | 102.6 | 108.5 | 112.5 | 123.3 | 122.2 | 117.9 | 158.0 |
| 1250 | 115.0 | 116.0 | 111.0 | 108.5 | 108.1 | 104.8 | 105.9 | 110.5 | 118.5 | 125.3 | 126.2 | 121.1 | 160.9 |
| 1500 | 113.5 | 111.5 | 107.8 | 106.6 | 104.9 | 104.0 | 104.9 | 110.4 | 118.3 | 122.4 | 121.2 | 116.4 | 157.6 |
| 2000 | 112.6 | 113.3 | 111.0 | 112.6 | 109.4 | 105.3 | 105.5 | 110.6 | 118.0 | 122.5 | 119.5 | 115.8 | 157.5 |
| 2500 | 110.1 | 110.7 | 109.2 | 113.5 | 114.8 | 109.4 | 106.4 | 112.0 | 117.4 | 122.4 | 118.7 | 111.2 | 157.5 |
| 3150 | 108.7 | 110.1 | 107.3 | 110.4 | 112.2 | 113.5 | 109.1 | 112.4 | 117.4 | 121.0 | 117.5 | 112.4 | 156.7 |
| 4000 | 107.2 | 108.5 | 107.3 | 109.6 | 109.4 | 110.1 | 111.5 | 113.6 | 116.2 | 119.9 | 115.6 | 111.4 | 109.9 |
| 5000 | 105.7 | 107.5 | 106.1 | 108.6 | 110.0 | 108.0 | 109.6 | 112.9 | 115.4 | 118.1 | 113.9 | 109.4 | 107.4 |
| 6300 | 104.4 | 106.6 | 105.1 | 107.8 | 108.7 | 108.9 | 108.7 | 113.9 | 115.4 | 118.1 | 113.9 | 109.4 | 107.4 |
| 8000 | 103.1 | 105.0 | 103.3 | 106.9 | 108.2 | 107.7 | 107.4 | 112.3 | 114.5 | 115.8 | 112.6 | 107.3 | 104.4 |
| 10000 | 102.0 | 104.8 | 102.8 | 106.3 | 108.2 | 107.5 | 107.7 | 112.0 | 113.6 | 116.3 | 111.4 | 105.9 | 103.6 |
| 12500 | 100.1 | 102.7 | 101.2 | 104.2 | 106.2 | 105.7 | 105.7 | 110.2 | 111.6 | 114.3 | 109.7 | 104.4 | 102.7 |
| 16000 | 97.4 | 100.4 | 99.1 | 102.4 | 104.0 | 104.2 | 104.3 | 107.9 | 110.5 | 111.2 | 107.5 | 101.8 | 98.5 |
| 20000 | 94.4 | 98.2 | 96.1 | 99.3 | 101.6 | 101.6 | 101.7 | 106.1 | 108.0 | 109.9 | 104.9 | 99.3 | 93.9 |
| 25000 | 91.5 | 94.9 | 93.6 | 96.4 | 99.0 | 99.6 | 99.5 | 102.1 | 103.6 | 106.6 | 99.6 | 97.4 | 90.3 |
| 31500 | 88.3 | 93.0 | 93.0 | 95.7 | 98.1 | 98.0 | 98.0 | 99.5 | 100.5 | 104.3 | 97.2 | 93.4 | 86.0 |
| 40000 | 83.1 | 87.0 | 86.7 | 88.7 | 92.8 | 92.1 | 92.0 | 95.8 | 97.5 | 102.3 | 94.5 | 88.7 | 80.9 |
| 50000 | 78.4 | 83.5 | 82.2 | 83.7 | 87.9 | 88.0 | 86.9 | 91.2 | 94.4 | 99.0 | 90.1 | 84.7 | 76.0 |
| 63000 | 73.3 | 78.1 | 76.7 | 77.9 | 83.3 | 83.8 | 82.4 | 86.3 | 88.9 | 95.6 | 85.7 | 78.8 | 70.3 |
| 80000 | 67.0 | 72.3 | 72.1 | 73.1 | 77.6 | 78.1 | 76.8 | 81.3 | 84.0 | 90.8 | 81.1 | 73.7 | 62.6 |
| GASPL | 120.4 | 121.2 | 118.3 | 120.1 | 120.8 | 119.6 | 119.1 | 123.3 | 128.2 | 134.8 | 132.0 | 129.5 | 127.4 |
| PWL | 131.8 | 133.6 | 133.6 | 134.2 | 134.9 | 132.7 | 132.7 | 136.6 | 140.7 | 144.8 | 144.1 | 140.4 | 137.3 |
| DBA | 189.1 | 194.2 | 193.6 | 194.7 | 199.4 | 199.9 | 198.6 | 202.9 | 205.6 | 212.2 | 202.5 | 195.5 | 185.4 |
| MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES | | | | | | | | | | | | | |
| NASA SHOCK CELL/CIRC CONVCN/C NGZ/AX/SC-1/NAS3-22514 | | | | | | | | | | | | | |
| VEHICL = ADH737 | TEST DATE = 03-19-82 | LOCAL = C41 ANECH CH | CONFIO = 1 | MODEL = AX | FLTVEL = 0. FPS | RELHUM = 92.5 PCT | NBFR = | TAMB F = 44.00 | PAMB HG = 29.55 | MIKE HT = | ARC | EXT CNFIO = | EXT DIST = 40.0 FT |
| IAPLHA = SB59 | DEQ WIND VEL = | MPH | PWL AREA = FULL SPHERE | TAMB F = | RELHUM = | NBFR = | MODEL = | PAMB HG = | MIKE HT = | ARC | EXT CNFIO = | EXT DIST = | 40.0 FT |
| FNINI = | LBS XNL | RPM | XNH | RPM | V8 | FPS | AE8 | FPS | AE18 | FPS | AE18 | FPS | AE18 |
| FNFRAMB = | LBS XNL | RPM | XNHR | RPM | V18 | FPS | AE18 | FPS | AE18 | FPS | AE18 | FPS | AE18 |
| TEST PT NO = 011 | NC | AE040 | CORR FAN SPEED = | RPM | | | | | | | | | |
| -ZER-0119 TAPE | = X0119F | TEST PT NO = 011 | NC | AE040 | CORR FAN SPEED = | RPM | | | | | | | |
| RUNPT = | -ZER-0119 TAPE | = X0119F | TEST PT NO = 011 | NC | AE040 | CORR FAN SPEED = | RPM | | | | | | |

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0119 X01191

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

69.8

63

80

100

125

160

200

250

315

400

500

630

800

1000

1250

1600

2000

2500

3150

4000

5000

6300

8000

10000

12500

16000

20000

25000

31500

40000

50000

63000

80000

100000

125000

160000

200000

250000

315000

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160

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

06/18/82 17.400 PAGE 1

IDENTIFICATION - MODEL 82F-400-0120 X0120C
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|---|----------------------|------------------------|--------------|-------------------|------------------|-------------------|-------------------|--------|------------|-------|----------|-------|-------|
| 50 | 89.9 | 90.2 | 90.2 | 90.0 | 88.6 | 87.0 | 90.4 | 87.5 | 98.2 | 99.6 | 97.9 | 98.9 | 97.3 |
| 63 | 91.5 | 94.8 | 95.3 | 95.1 | 93.9 | 91.5 | 94.7 | 89.3 | 98.0 | 100.4 | 98.7 | 99.6 | 138.4 |
| 80 | 91.0 | 95.8 | 90.1 | 93.1 | 92.7 | 93.3 | 92.7 | 93.9 | 96.3 | 95.4 | 97.5 | 99.2 | 101.9 |
| 100 | 89.6 | 94.1 | 89.4 | 93.4 | 94.5 | 93.9 | 93.5 | 96.9 | 96.9 | 97.2 | 98.6 | 103.8 | 104.9 |
| 125 | 87.9 | 89.1 | 90.4 | 93.7 | 94.5 | 93.7 | 93.3 | 93.9 | 95.9 | 98.5 | 104.1 | 106.8 | 108.5 |
| 160 | 86.0 | 84.6 | 87.3 | 88.4 | 88.5 | 87.8 | 90.5 | 90.9 | 94.6 | 99.2 | 104.5 | 107.7 | 111.1 |
| 200 | 86.3 | 87.3 | 85.3 | 88.4 | 89.7 | 90.1 | 91.0 | 94.1 | 99.6 | 100.7 | 105.8 | 110.7 | 112.4 |
| 250 | 84.8 | 87.8 | 86.1 | 89.4 | 89.5 | 90.3 | 91.0 | 96.1 | 99.6 | 105.9 | 110.8 | 114.0 | 113.4 |
| 315 | 85.6 | 88.1 | 87.1 | 89.4 | 91.5 | 91.4 | 93.3 | 95.4 | 101.9 | 108.2 | 113.1 | 115.0 | 113.9 |
| 400 | 87.1 | 89.4 | 89.7 | 90.4 | 92.0 | 91.1 | 93.0 | 96.4 | 103.4 | 111.9 | 116.1 | 116.3 | 112.2 |
| 500 | 87.9 | 89.7 | 89.2 | 91.8 | 92.6 | 93.2 | 93.6 | 98.5 | 105.0 | 114.3 | 118.2 | 115.9 | 109.0 |
| 630 | 89.5 | 92.3 | 91.1 | 93.6 | 94.5 | 94.3 | 95.7 | 101.4 | 107.9 | 117.9 | 119.6 | 115.7 | 106.6 |
| 800 | 93.2 | 94.8 | 94.8 | 96.2 | 98.1 | 102.8 | 110.2 | 119.8 | 121.4 | 120.4 | 114.1 | 105.5 | 154.3 |
| 1000 | 99.7 | 100.5 | 97.7 | 99.8 | 98.4 | 98.0 | 99.1 | 104.8 | 121.2 | 121.3 | 121.4 | 113.9 | 155.6 |
| 1250 | 107.2 | 109.0 | 103.5 | 103.5 | 101.4 | 100.5 | 101.1 | 106.5 | 113.5 | 121.6 | 121.5 | 113.1 | 106.9 |
| 1600 | 112.7 | 112.8 | 109.5 | 107.8 | 102.0 | 102.6 | 103.5 | 108.3 | 115.0 | 121.7 | 121.3 | 112.8 | 156.9 |
| 2000 | 109.4 | 112.8 | 110.7 | 112.8 | 109.7 | 104.0 | 103.5 | 108.3 | 115.0 | 121.7 | 121.3 | 112.8 | 156.9 |
| 2500 | 107.4 | 108.9 | 108.0 | 112.7 | 113.3 | 109.4 | 104.6 | 109.5 | 114.6 | 121.4 | 119.2 | 111.7 | 156.3 |
| 3150 | 107.0 | 109.1 | 106.8 | 108.9 | 111.4 | 111.8 | 109.1 | 110.9 | 115.4 | 120.3 | 118.0 | 110.2 | 155.7 |
| 4000 | 105.5 | 107.0 | 106.3 | 108.8 | 107.9 | 108.9 | 110.7 | 112.8 | 114.9 | 118.9 | 115.4 | 107.4 | 154.8 |
| 5000 | 104.2 | 106.5 | 104.6 | 106.6 | 108.3 | 106.7 | 108.9 | 112.9 | 114.4 | 117.3 | 115.1 | 107.4 | 153.8 |
| 6300 | 103.2 | 105.4 | 104.3 | 106.8 | 107.0 | 107.4 | 107.5 | 113.9 | 114.9 | 117.1 | 114.1 | 106.9 | 153.9 |
| 8000 | 102.1 | 104.3 | 105.9 | 106.9 | 106.7 | 107.2 | 111.8 | 114.3 | 115.8 | 112.8 | 111.7 | 104.4 | 153.2 |
| 10000 | 101.2 | 103.5 | 102.0 | 105.0 | 106.5 | 106.2 | 107.0 | 111.7 | 113.9 | 115.5 | 111.7 | 104.4 | 153.3 |
| 12500 | 98.6 | 101.2 | 100.7 | 103.4 | 104.7 | 104.9 | 105.2 | 109.2 | 111.8 | 113.0 | 110.2 | 102.9 | 152.0 |
| 16000 | 96.2 | 98.9 | 98.1 | 101.2 | 102.5 | 102.5 | 103.8 | 107.7 | 110.3 | 111.0 | 108.0 | 100.5 | 151.5 |
| 20000 | 93.4 | 96.4 | 97.8 | 100.6 | 100.6 | 101.2 | 105.6 | 107.5 | 102.1 | 107.5 | 105.1 | 98.0 | 150.8 |
| 25000 | 90.5 | 93.4 | 92.6 | 94.9 | 97.0 | 98.9 | 98.5 | 102.1 | 103.4 | 103.9 | 100.4 | 95.6 | 149.3 |
| 31500 | 85.6 | 85.6 | 86.3 | 88.3 | 89.5 | 93.5 | 94.1 | 94.6 | 98.4 | 100.3 | 102.3 | 98.0 | 149.5 |
| 40000 | 80.9 | 84.8 | 84.7 | 86.5 | 89.5 | 90.4 | 90.7 | 94.3 | 96.7 | 99.8 | 94.5 | 87.5 | 150.0 |
| 50000 | 75.4 | 80.5 | 79.2 | 81.5 | 84.4 | 85.5 | 85.4 | 89.0 | 92.4 | 95.3 | 89.6 | 82.2 | 149.7 |
| 63000 | 69.1 | 74.4 | 73.4 | 75.9 | 79.3 | 80.0 | 79.9 | 83.8 | 87.4 | 89.3 | 84.9 | 76.1 | 149.6 |
| 80000 | 63.8 | 69.3 | 67.6 | 69.6 | 73.1 | 73.6 | 72.8 | 78.8 | 82.8 | 85.8 | 80.1 | 69.2 | 151.8 |
| DBA | 118.3 | 120.0 | 117.7 | 119.9 | 119.7 | 118.2 | 117.7 | 121.7 | 125.5 | 131.4 | 131.0 | 124.0 | 118.0 |
| PNL | 131.1 | 131.6 | 129.6 | 132.6 | 133.3 | 132.0 | 131.6 | 134.8 | 138.3 | 143.5 | 142.5 | 136.4 | 131.5 |
| GASPL | 117.6 | 119.3 | 117.1 | 119.3 | 119.3 | 118.2 | 118.1 | 122.1 | 125.7 | 131.2 | 131.0 | 125.7 | 121.9 |
| NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514 | | | | | | | | | | | | | |
| VEHICL = ADH740 | TEST DATE = 03-19-82 | LOCAT = | CAT ANECH CH | CONFID = 1 | MODEL = AX | FLTVEL = 400. FPS | RELHUM = 92.5 PCT | NBFR = | | | | | |
| IAPLHA = SB59 | IEGA = NO | PWL AREA = FULL SPHERE | TAMB F = | 44.00 | PAMB HG = 29.55 | RELHUM = 92.5 PCT | NBFR = | | | | | | |
| WIND DIR = | DEG WIND/VEL = | MPH | EXT DIST = | 40.0 FT | EXT CONFIG = ARC | MIKE HT = | NBFR = | | | | | | |
| FNINI = | LBS XNL | RPM | XNH | RPM | V8 | = 2431.2 FPS | AE8 | = | 20.4 SQ IN | | | | |
| FNAMB = | LBS XNLR | = | XNHR | = | RPM | V18 | = | FPS | AE18 | = | 0. SQ IN | | |
| RUNPT = | 400-0120 | TAPE | X0120C | TEST PT NO = 0120 | NC | = AE040 | CORR FAN SPEED = | | | | | | |

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0120 X0120F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

FREQ

50

63

80

100

125

160

200

250

315

400

500

630

800

1000

1250

1600

2000

2500

3150

4000

5000

6300

8000

10000

12500

16000

20000

25000

31500

40000

50000

63000

80000

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|
| 144.5 | 91.7 | 93.6 | 90.6 | 92.4 | 90.9 | 90.3 | 89.1 | 92.5 | 98.4 | 103.8 | 108.2 | 110.6 | 111.3 | 144.5 |
| 147.9 | 91.7 | 93.6 | 90.6 | 92.4 | 91.6 | 91.9 | 92.6 | 94.6 | 101.3 | 109.1 | 112.9 | 113.9 | 112.4 | 147.9 |
| 149.8 | 93.3 | 94.5 | 92.1 | 92.8 | 93.8 | 91.4 | 92.2 | 94.6 | 102.9 | 111.8 | 115.8 | 115.0 | 111.9 | 149.8 |
| 151.2 | 93.9 | 95.0 | 92.0 | 93.6 | 94.4 | 93.6 | 92.7 | 96.4 | 105.6 | 115.2 | 117.0 | 115.4 | 111.2 | 151.2 |
| 152.7 | 96.0 | 96.7 | 94.0 | 95.1 | 96.4 | 94.8 | 94.7 | 99.0 | 108.3 | 117.4 | 118.4 | 114.9 | 112.6 | 152.7 |
| 154.5 | 96.5 | 96.3 | 95.8 | 97.0 | 97.4 | 96.7 | 97.1 | 100.5 | 110.8 | 119.5 | 120.2 | 116.0 | 114.9 | 154.5 |
| 155.2 | 99.3 | 98.5 | 96.8 | 97.9 | 98.0 | 98.6 | 98.3 | 102.6 | 112.3 | 120.1 | 120.6 | 115.7 | 117.0 | 155.2 |
| 156.2 | 106.1 | 105.7 | 101.7 | 102.5 | 103.3 | 101.3 | 100.5 | 104.6 | 113.6 | 120.2 | 122.2 | 116.3 | 117.6 | 156.2 |
| 156.7 | 114.6 | 115.2 | 108.3 | 106.8 | 103.1 | 102.2 | 106.2 | 114.3 | 120.7 | 120.9 | 119.2 | 115.3 | 117.1 | 156.7 |
| 158.1 | 120.2 | 119.1 | 114.6 | 112.4 | 105.3 | 103.4 | 106.9 | 114.3 | 120.9 | 119.2 | 115.3 | 117.1 | 1158.1 | |
| 159.1 | 119.4 | 121.1 | 117.2 | 117.4 | 116.2 | 111.0 | 104.8 | 108.4 | 115.6 | 120.2 | 118.5 | 114.1 | 116.2 | 159.1 |
| 157.3 | 115.0 | 115.5 | 113.4 | 116.9 | 114.7 | 113.8 | 119.2 | 117.1 | 119.2 | 117.1 | 112.5 | 114.3 | 1157.3 | |
| 156.3 | 114.6 | 115.7 | 112.4 | 113.2 | 111.6 | 111.4 | 111.9 | 112.7 | 115.2 | 117.6 | 115.8 | 111.2 | 113.0 | 156.3 |
| 155.9 | 112.9 | 113.6 | 112.0 | 113.4 | 112.3 | 109.7 | 110.3 | 112.9 | 115.8 | 117.4 | 114.8 | 110.6 | 111.7 | 155.9 |
| 155.4 | 111.7 | 113.3 | 110.4 | 111.4 | 111.0 | 110.4 | 109.0 | 114.0 | 115.3 | 116.4 | 113.7 | 108.9 | 111.0 | 155.4 |
| 155.2 | 110.5 | 111.5 | 110.0 | 111.5 | 110.0 | 109.7 | 108.7 | 111.8 | 115.1 | 116.3 | 112.7 | 108.4 | 110.1 | 155.2 |
| 154.5 | 109.2 | 110.4 | 110.5 | 109.2 | 109.2 | 108.6 | 111.8 | 113.3 | 114.0 | 111.5 | 107.2 | 108.4 | 104.1 | 154.5 |
| 153.8 | 108.1 | 109.6 | 107.3 | 109.3 | 108.7 | 107.9 | 106.8 | 109.3 | 112.3 | 112.5 | 109.9 | 105.4 | 107.3 | 153.8 |
| 153.6 | 105.0 | 106.8 | 105.4 | 107.1 | 106.5 | 105.5 | 107.8 | 109.9 | 111.1 | 107.4 | 103.3 | 104.6 | 103.1 | 153.6 |
| 152.1 | 97.8 | 99.5 | 97.3 | 98.0 | 98.1 | 97.1 | 96.3 | 98.6 | 101.4 | 104.0 | 98.5 | 95.0 | 94.3 | 152.1 |
| 151.9 | 92.1 | 95.5 | 92.1 | 93.4 | 94.1 | 93.4 | 94.4 | 97.4 | 99.8 | 94.4 | 90.0 | 88.5 | 151.9 | |
| 151.5 | 87.0 | 89.6 | 88.1 | 88.3 | 89.0 | 88.5 | 87.0 | 89.1 | 93.4 | 94.9 | 90.8 | 84.9 | 83.8 | 151.5 |
| 152.9 | 80.6 | 84.4 | 81.7 | 82.4 | 83.9 | 83.0 | 81.5 | 84.0 | 90.2 | 92.7 | 87.3 | 79.5 | 77.1 | 152.9 |
| 151.3 | 72.7 | 76.8 | 74.4 | 75.3 | 77.7 | 76.6 | 74.4 | 78.9 | 80.4 | 82.9 | 77.5 | 69.7 | 67.3 | 151.3 |
| 168.6 | 125.5 | 126.2 | 122.7 | 123.6 | 122.6 | 120.5 | 119.1 | 121.7 | 125.9 | 130.4 | 130.2 | 126.2 | 126.6 | 168.6 |
| 138.3 | 138.0 | 139.2 | 135.7 | 136.5 | 135.3 | 133.5 | 131.8 | 133.7 | 138.1 | 142.2 | 141.2 | 137.2 | 138.3 | |
| 137.3 | 139.1 | 140.5 | 136.7 | 137.5 | 135.3 | 133.5 | 131.8 | 133.7 | 138.1 | 142.2 | 141.2 | 137.2 | 138.3 | |
| 191.5 | 195.7 | 199.5 | 197.1 | 197.9 | 199.7 | 198.8 | 196.8 | 200.6 | 203.9 | 206.3 | 201.0 | 193.6 | 191.5 | |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRC CONVCNOC NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH740 TEST DATE = 03-19-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 44.00 PAMB HG = 29.55 RELHUM = 92.5 PCT
WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBFR

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2431.2 FPS AEB = 20.4 SQ IN
FNRAMB = LBS XNLR = RPM XNH XNHR = RPM V8 = 2431.2 FPS AEB = 20.4 SQ IN

RUNPT = 82F-400-0120 TAPE = X0120F TEST PT NO = 0120 NC = AE040 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0120 X01201

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 72.2 75.0 73.6 75.1 76.4 74.2 76.8 84.4 92.2 94.7 91.8 85.3 168.1

63 72.8 75.4 73.5 75.9 77.1 76.3 75.3 78.7 95.6 92.1 84.5 169.6

80 73.8 77.3 77.3 79.0 77.5 77.3 81.2 89.8 97.8 97.3 91.5 85.8 171.0

100 75.3 78.6 77.2 79.1 80.0 79.4 82.6 92.2 99.8 99.0 92.5 88.0 172.9

125 77.9 78.8 78.1 79.9 82.5 81.3 80.8 84.7 93.7 100.4 99.3 92.1 89.9 173.6

160 84.6 85.8 82.9 84.4 85.6 83.8 82.9 86.5 94.8 100.2 100.6 92.4 90.1 174.5

200 92.8 95.0 88.3 88.3 85.4 84.4 88.0 95.3 100.6 99.1 91.6 88.9 175.1

250 98.1 98.7 95.4 93.0 94.5 87.5 88.4 95.1 100.5 97.1 90.6 88.5 176.4

315 96.8 100.4 97.7 98.7 98.0 92.9 86.6 96.1 99.4 96.0 88.9 86.7 177.4

400 92.0 94.4 93.5 97.9 96.1 95.4 91.2 95.8 98.0 94.0 86.7 83.9 175.7

500 91.1 94.2 93.9 92.7 92.7 93.1 93.4 95.0 96.1 92.3 84.8 81.5 174.6

630 88.9 91.7 91.4 93.8 93.2 90.8 91.2 93.3 95.2 95.5 90.8 83.4 174.3

800 87.2 91.0 89.6 91.5 91.7 91.3 89.7 94.1 94.4 89.2 81.0 77.3 173.7

1000 85.5 89.4 88.9 91.4 88.9 91.5 90.4 89.2 91.8 94.1 93.6 87.8 173.5

1250 83.8 87.7 86.5 90.2 89.9 89.8 89.0 91.6 92.0 91.1 86.0 77.9 172.8

1600 81.8 86.1 85.5 88.7 88.8 88.2 86.9 88.7 90.6 89.0 83.6 74.7 172.2

2000 77.7 82.6 83.3 86.3 86.5 85.6 85.4 87.0 87.8 87.0 80.1 71.0 171.5

2500 73.0 78.8 79.5 83.0 84.0 83.2 82.2 83.8 84.1 81.7 75.0 67.6 170.5

3150 66.3 73.2 73.9 77.5 79.6 80.2 78.6 79.8 79.3 77.9 69.2 58.2 170.2

4000 59.2 68.6 71.7 73.1 72.5 71.3 72.3 72.7 71.5 59.8 45.9 27.3 170.3

5000 43.6 55.4 57.2 61.7 64.0 62.4 62.7 62.5 59.7 46.0 24.5 170.3

6300 20.8 35.3 41.1 45.8 48.9 49.2 46.9 46.6 46.5 40.6 24.5 169.8

8000 5.3 13.4 20.6 25.7 26.0 23.3 22.2 21.9 13.6 171.3 169.6

10000 10000 12500 15000 20000 25000 31500 40000 50000 63000 80000

DBA 97.1 100.1 98.6 100.9 100.6 99.3 98.0 100.3 102.1 102.9 98.9 91.4 88.2

PWL 108.0 111.5 109.6 111.4 110.7 109.2 107.5 109.4 112.2 114.3 111.1 103.7 100.0

PNL 107.5 110.8 109.0 110.9 110.7 109.2 107.5 109.4 112.2 114.3 111.1 103.7 100.0

GASPL 102.7 105.1 102.7 104.3 103.9 101.7 100.0 102.1 105.9 109.8 108.1 101.6 97.9 187.0

MODEL AREA = 131.5 SQ CM (20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514

VEHICLE = ADH740 TEST DATE = 03-19-82
IAPLHA = SB59 LEGA' = NO
WIND DIR = DEG WIND VEL = MPH
LOCAL = C41 ANECH CH CONF16 = 1
TAMB F = 44.00 PAMB HG = 29.55
MIKE HT = SL
FLTEL = 400. FPS
RELHUM = 92.5 PCT
NBFR =

FNINI = LBS XNL RPM XNHR = V8 RPM V8 = 2431.2 FPS AE8 = 20.4 SQ IN
FNRAMB = LBS XNL RPM XNHR = V8 RPM V8 = 2431.2 FPS AE8 = 20.4 SQ IN

RUNPT = -400-0120 TAPE = X01201 TEST PT NO = 012 NC = AE040 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

100

IDENTIFICATION - MODEL 82F-ZER-0121 X0121C

BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | PWL |
|------|------|
| 40. | 160. |
| 50. | 150. |
| 60. | 140. |
| 70. | 130. |
| 80. | 120. |
| 90. | 110. |
| 100. | 100. |
| 110. | 90. |
| 120. | 80. |
| 130. | 70. |
| 140. | 60. |
| 150. | 50. |
| 160. | 40. |

| | | | | | | | | | | | | | | | | | |
|-----|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 68.9 | 91.2 | 67.2 | 66.5 | 89.9 | 86.5 | 89.5 | 92.7 | 91.5 | 96.4 | 88.0 | 98.0 | 99.1 | 97.7 | 96.9 | 97.0 | 135.9 |
| 63 | 91.7 | 94.3 | 87.8 | 92.6 | 89.9 | 86.5 | 89.5 | 92.7 | 91.5 | 96.4 | 88.0 | 98.0 | 99.1 | 97.7 | 96.9 | 97.0 | 135.9 |
| 80 | 91.3 | 95.3 | 89.6 | 92.9 | 92.7 | 93.3 | 93.0 | 94.6 | 96.6 | 95.4 | 98.5 | 100.9 | 100.9 | 100.9 | 100.9 | 100.9 | 138.5 |
| 100 | 89.6 | 90.9 | 95.2 | 95.7 | 94.9 | 94.5 | 97.9 | 98.1 | 99.4 | 100.1 | 104.0 | 105.7 | 140.2 | 142.5 | 142.5 | 142.5 | 142.5 |
| 125 | 87.4 | 89.9 | 91.2 | 94.4 | 95.3 | 94.7 | 93.8 | 95.2 | 97.7 | 99.2 | 106.1 | 107.8 | 109.2 | 112.2 | 112.2 | 112.2 | 112.2 |

| | | | | | | | | | | | | | | |
|-----|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| 160 | 86.3 | 87.1 | 88.8 | 90.1 | 90.5 | 91.3 | 92.7 | 94.6 | 97.3 | 101.7 | 103.9 | 109.5 | 112.4 | 143.9 |
| 200 | 88.8 | 89.6 | 90.8 | 91.9 | 93.7 | 93.8 | 94.2 | 97.4 | 102.6 | 103.6 | 109.6 | 114.6 | 146.7 | 196.7 |
| 250 | 89.0 | 92.3 | 93.6 | 93.7 | 93.8 | 95.5 | 99.9 | 103.3 | 103.3 | 109.6 | 114.3 | 116.5 | 150.0 | 200.0 |
| 315 | 89.6 | 91.9 | 89.9 | 93.4 | 95.3 | 95.6 | 96.5 | 99.7 | 106.1 | 111.4 | 116.3 | 117.5 | 151.6 | 200.0 |
| 400 | 91.1 | 93.4 | 91.1 | 94.7 | 95.5 | 94.9 | 97.3 | 100.9 | 108.4 | 115.9 | 118.8 | 117.2 | 153.5 | 200.0 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-----|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 500 | 92.2 | 94.7 | 91.7 | 95.3 | 96.4 | 97.0 | 97.9 | 102.5 | 110.2 | 117.8 | 120.7 | 118.6 | 116.0 | 116.9 | 156.3 | 630 | 93.8 | 96.1 | 93.6 | 96.9 | 97.7 | 98.3 | 99.2 | 105.1 | 112.6 | 121.2 | 121.6 | 119.2 | 119.4 | 117.8 | 157.3 | 1000 | 104.2 | 105.7 | 100.5 | 102.8 | 102.1 | 101.7 | 102.6 | 108.3 | 116.2 | 124.1 | 122.2 | 119.4 | 116.5 | 158.2 | 1250 | 113.7 | 115.2 | 107.0 | 108.5 | 107.1 | 105.3 | 105.9 | 109.5 | 117.0 | 125.1 | 125.7 | 119.6 | 116.7 | 160.2 |
|-----|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-----|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|

| | | | | | | | | | | | | | | | |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1600 | 114.0 | 112.3 | 108.3 | 108.1 | 108.2 | 103.5 | 105.1 | 107.7 | 117.5 | 122.9 | 122.5 | 120.5 | 116.2 | 113.9 | 157.9 |
| 1600 | 114.0 | 112.3 | 108.3 | 108.1 | 108.2 | 103.5 | 105.1 | 107.7 | 117.5 | 122.9 | 122.5 | 120.5 | 116.2 | 113.9 | 157.9 |
| 2000 | 112.6 | 113.3 | 111.2 | 113.3 | 113.3 | 105.8 | 105.0 | 110.6 | 117.7 | 123.7 | 123.7 | 123.7 | 117.1 | 115.6 | 158.2 |
| 2500 | 110.1 | 110.9 | 109.5 | 113.7 | 114.6 | 110.7 | 106.6 | 112.0 | 117.1 | 123.1 | 123.1 | 123.1 | 119.4 | 114.0 | 157.9 |
| 3150 | 109.0 | 111.3 | 108.1 | 110.6 | 112.9 | 113.5 | 109.6 | 112.4 | 117.4 | 121.5 | 118.3 | 112.4 | 109.7 | 157.1 | |
| 4000 | 107.0 | 109.3 | 107.5 | 110.6 | 109.6 | 111.1 | 111.5 | 114.3 | 116.2 | 120.4 | 117.1 | 110.7 | 108.2 | 156.2 | |

| | | | | | | | | | | | | | | |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 5000 | 106.2 | 108.0 | 106.6 | 109.1 | 109.8 | 108.7 | 110.4 | 113.9 | 115.9 | 119.3 | 115.4 | 109.6 | 105.4 | 155.3 |
| 6300 | 104.7 | 105.9 | 105.8 | 108.3 | 108.2 | 109.2 | 109.2 | 114.4 | 115.4 | 118.8 | 114.6 | 108.1 | 104.1 | 155.1 |
| 8000 | 103.6 | 105.5 | 103.8 | 107.2 | 108.9 | 108.7 | 108.2 | 113.0 | 114.8 | 117.3 | 113.8 | 106.3 | 102.4 | 154.4 |
| 8000 | 103.6 | 105.5 | 103.8 | 107.2 | 108.9 | 108.7 | 108.2 | 113.0 | 114.8 | 117.3 | 113.8 | 106.3 | 102.4 | 154.4 |
| 8000 | 102.5 | 104.0 | 106.8 | 108.5 | 107.7 | 108.2 | 112.2 | 113.4 | 116.8 | 112.2 | 105.1 | 101.4 | 154.1 | |
| 2500 | 100.6 | 103.2 | 101.9 | 104.7 | 106.7 | 106.4 | 106.5 | 110.2 | 112.0 | 114.3 | 110.7 | 103.2 | 99.4 | 153.0 |

| | | | | | | | | | | | | | | | | | | | | | | | |
|------|------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|------|-------|-------|-------|------|------|-------|-------|
| 6000 | 97.4 | 100.7 | 99.6 | 102.9 | 104.8 | 104.2 | 104.8 | 108.4 | 110.3 | 112.2 | 108.3 | 106.1 | 99.0 | 93.8 | 102.4 | 95.8 | 100.8 | 97.5 | 103.3 | 95.7 | 88.2 | 79.2 | 152.5 |
| 5000 | 94.9 | 98.2 | 96.8 | 100.1 | 102.1 | 102.7 | 102.7 | 106.1 | 107.7 | 110.2 | 107.9 | 100.6 | 96.1 | 89.3 | 151.2 | 92.4 | 100.8 | 96.3 | 103.3 | 95.7 | 88.2 | 79.2 | 152.5 |
| 4000 | 91.5 | 95.4 | 94.9 | 97.4 | 99.3 | 100.4 | 100.4 | 102.6 | 104.1 | 107.2 | 105.8 | 98.5 | 92.4 | 84.7 | 151.6 | 92.4 | 99.9 | 96.3 | 103.3 | 95.7 | 88.2 | 79.2 | 152.5 |
| 3000 | 87.8 | 92.0 | 91.0 | 94.2 | 96.0 | 96.3 | 96.3 | 99.9 | 100.8 | 105.8 | 98.5 | 92.4 | 84.7 | 151.6 | 92.4 | 99.9 | 96.3 | 103.3 | 95.7 | 88.2 | 79.2 | 152.5 | |
| 2000 | 83.4 | 87.8 | 87.4 | 89.7 | 92.5 | 92.9 | 92.7 | 96.3 | 97.5 | 103.3 | 95.7 | 88.2 | 79.2 | 152.5 | 92.4 | 99.9 | 96.3 | 103.3 | 95.7 | 88.2 | 79.2 | 152.5 | |
| 1000 | 83.4 | 87.8 | 87.4 | 89.7 | 92.5 | 92.9 | 92.7 | 96.3 | 97.5 | 103.3 | 95.7 | 88.2 | 79.2 | 152.5 | 92.4 | 99.9 | 96.3 | 103.3 | 95.7 | 88.2 | 79.2 | 152.5 | |

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50000 | 78.9 | 83.0 | 82.0 | 84.7 | 87.4 | 88.5 | 87.4 | 90.7 | 94.4 | 99.5 | 96.1 | 83.7 | 73.2 | 152.7 |
| 33000 | 72.8 | 78.4 | 77.2 | 79.4 | 82.8 | 84.3 | 82.4 | 86.3 | 89.6 | 95.6 | 88.2 | 78.6 | 66.8 | 153.8 |
| 10000 | 67.3 | 73.0 | 73.1 | 74.1 | 78.1 | 79.1 | 77.1 | 81.6 | 85.0 | 89.8 | 80.8 | 71.2 | 60.4 | 155.2 |
| ASPL | 120.3 | 121.3 | 118.2 | 120.7 | 121.0 | 120.1 | 119.6 | 123.6 | 127.8 | 133.5 | 132.4 | 129.0 | 127.3 | 169.7 |

| | | | | | | | | | | | | | |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PNL | 131.9 | 133.4 | 130.7 | 134.0 | 134.9 | 134.0 | 133.0 | 136.5 | 140.5 | 145.5 | 143.3 | 139.0 | 136.6 |
| PLT | 132.9 | 136.1 | 130.7 | 135.1 | 135.9 | 134.0 | 133.0 | 136.5 | 140.5 | 145.5 | 143.3 | 139.0 | 136.6 |
| DBA | 121.0 | 121.9 | 118.6 | 121.2 | 121.2 | 120.1 | 119.2 | 123.3 | 127.8 | 133.6 | 132.1 | 127.7 | 125.2 |

SA SHOCK CELL/CIRC CONWONIC NOZ/AX/SC-1/NAS3-22514

| | | | | | | | | | | | |
|-------|---|--------|--------------|----------|-------|--------------|--------------|-------------|------------|---|-----|
| CHICL | = | ADH738 | TEST DATE = | 03-19-82 | LOCAT | = | CAT ANECH CH | CONFIG | = | 1 | |
| PLHA | = | SBS9 | TEGA | = | NO | PWL AREA | = | FULL SPHERE | TAMB F | = | 44. |
| NDDIR | = | | DEG WIND,VEL | = | | MPH EXT DIST | = | 40.0 FT | EXT CONFIG | = | ARC |

ORIGINAL OF BOOK

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0121 X01211

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|---|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 70.0 | 73.8 | 72.7 | 76.9 | 78.2 | 77.7 | 79.9 | 83.2 | 89.9 | 96.4 | 97.8 | 95.5 | 90.6 |
| 63 | 71.1 | 75.2 | 73.3 | 77.5 | 79.0 | 81.8 | 80.5 | 84.8 | 91.8 | 98.2 | 99.6 | 95.3 | 89.4 |
| 80 | 72.6 | 76.5 | 75.1 | 79.1 | 80.3 | 81.1 | 81.8 | 87.3 | 94.1 | 101.6 | 100.4 | 95.9 | 90.1 |
| 100 | 76.7 | 77.6 | 77.7 | 80.9 | 82.2 | 82.9 | 83.9 | 88.7 | 96.7 | 102.9 | 100.7 | 95.9 | 90.9 |
| 125 | 82.8 | 86.0 | 84.9 | 84.6 | 84.4 | 85.1 | 85.1 | 90.4 | 97.6 | 104.3 | 100.9 | 95.7 | 89.4 |
| 160 | 92.2 | 95.3 | 90.5 | 89.5 | 87.4 | 85.9 | 87.3 | 92.5 | 98.6 | 102.7 | 100.2 | 92.0 | 85.9 |
| 200 | 92.2 | 92.1 | 89.3 | 89.9 | 87.4 | 85.9 | 87.3 | 92.5 | 98.6 | 102.7 | 100.2 | 92.0 | 85.9 |
| 250 | 90.5 | 92.9 | 92.0 | 94.9 | 92.2 | 87.9 | 88.0 | 92.2 | 98.5 | 103.3 | 98.4 | 91.0 | 83.2 |
| 315 | 87.6 | 90.2 | 89.9 | 95.0 | 92.6 | 88.4 | 93.3 | 97.6 | 102.4 | 96.9 | 88.8 | 81.0 | 176.2 |
| 400 | 86.0 | 90.2 | 88.2 | 91.6 | 94.4 | 95.1 | 91.1 | 93.3 | 97.6 | 100.4 | 95.2 | 86.6 | 79.2 |
| 500 | 83.5 | 87.7 | 87.3 | 91.2 | 90.8 | 92.4 | 92.7 | 95.0 | 96.0 | 98.8 | 93.6 | 84.2 | 76.8 |
| 630 | 82.2 | 86.1 | 86.0 | 89.5 | 90.6 | 89.8 | 91.2 | 94.3 | 95.4 | 97.4 | 91.4 | 82.5 | 72.9 |
| 800 | 80.2 | 84.6 | 85.0 | 89.4 | 89.9 | 89.9 | 90.5 | 94.5 | 94.6 | 96.5 | 90.1 | 80.3 | 70.5 |
| 1000 | 78.7 | 82.9 | 82.7 | 87.1 | 89.4 | 89.4 | 88.7 | 93.0 | 93.7 | 94.7 | 88.9 | 77.8 | 67.7 |
| 1250 | 77.1 | 82.1 | 82.7 | 86.5 | 88.9 | 88.3 | 88.6 | 92.0 | 92.1 | 93.8 | 86.7 | 75.8 | 65.2 |
| 1600 | 74.3 | 79.6 | 80.2 | 84.1 | 86.8 | 86.6 | 89.6 | 90.3 | 90.7 | 84.4 | 68.5 | 60.8 | 171.4 |
| 2000 | 70.2 | 76.5 | 77.5 | 82.1 | 84.7 | 84.7 | 87.6 | 88.2 | 88.1 | 81.0 | 68.5 | 54.2 | 170.7 |
| 2500 | 65.8 | 72.8 | 73.9 | 78.6 | 81.4 | 81.7 | 82.0 | 84.6 | 84.8 | 84.8 | 77.1 | 63.9 | 46.4 |
| 3150 | 59.1 | 67.6 | 70.0 | 74.4 | 77.3 | 78.0 | 79.6 | 79.3 | 80.1 | 68.2 | 56.0 | 34.4 | 169.6 |
| 4000 | 49.1 | 59.5 | 62.4 | 67.9 | 71.0 | 71.8 | 73.6 | 72.1 | 73.3 | 59.8 | 43.4 | 15.3 | 169.9 |
| 5000 | 35.0 | 47.7 | 52.5 | 58.0 | 62.5 | 63.5 | 62.7 | 64.6 | 62.6 | 63.2 | 47.3 | 25.5 | 170.9 |
| 6300 | 12.7 | 28.7 | 35.0 | 42.2 | 47.3 | 49.2 | 47.3 | 48.2 | 47.4 | 45.2 | 25.1 | 171.1 | 172.1 |
| 8000 | | | 8.9 | 17.7 | 24.6 | 27.2 | 24.2 | 24.6 | 21.3 | 16.5 | | | 173.6 |
| 10000 | | | | | | | | | | | | | |
| 12500 | | | | | | | | | | | | | |
| 15000 | | | | | | | | | | | | | |
| 20000 | | | | | | | | | | | | | |
| 25000 | | | | | | | | | | | | | |
| 31500 | | | | | | | | | | | | | |
| 40000 | | | | | | | | | | | | | |
| 50000 | | | | | | | | | | | | | |
| 63000 | | | | | | | | | | | | | |
| 80000 | | | | | | | | | | | | | |
| GASPL | 98.0 | 100.6 | 98.4 | 101.7 | 102.2 | 101.4 | 100.6 | 104.2 | 108.1 | 113.0 | 110.3 | 104.3 | 98.3 |
| PNL | 101.6 | 104.8 | 104.0 | 107.9 | 109.2 | 108.8 | 107.8 | 111.1 | 113.6 | 117.0 | 113.1 | 104.8 | 97.4 |
| PNLT | 102.1 | 106.1 | 104.0 | 108.4 | 109.9 | 108.8 | 107.8 | 111.1 | 114.2 | 117.6 | 114.2 | 104.8 | 97.4 |
| DBA | 90.5 | 94.0 | 93.4 | 97.2 | 98.6 | 98.4 | 97.9 | 101.3 | 102.7 | 105.3 | 100.2 | 91.6 | 84.1 |
| MODEL AREA = 131.5 SQ CM (20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.268 FREQ SHIFT = -9 | | | | | | | | | | | | | |
| NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514 | | | | | | | | | | | | | |
| VEHICL | = ADH738 | | | | | | | | | | | | |
| IAPLHA | = SB59 | | | | | | | | | | | | |
| WIND DIR | = DEG | | | | | | | | | | | | |
| WIND VEL | = MPH | | | | | | | | | | | | |
| EXT DIST | = 2400.0 FT | | | | | | | | | | | | |
| EXT CNF16 | = SL | | | | | | | | | | | | |
| MODEL | = AX | | | | | | | | | | | | |
| RELHUM | = 92.5 PCT | | | | | | | | | | | | |
| FLTVEL | = 0. FPS | | | | | | | | | | | | |
| LOCAT | = C41 ANECH CH | | | | | | | | | | | | |
| TAMB F | = 44.00 | | | | | | | | | | | | |
| MIKE HT | = 29.55 | | | | | | | | | | | | |
| AE8 | = 20.4 SQ IN | | | | | | | | | | | | |
| AE18 | = 0. SQ IN | | | | | | | | | | | | |
| TEST DATE | = 03-19-82 | | | | | | | | | | | | |
| TEST PT NO | = 0121 | | | | | | | | | | | | |
| NC | = AE040 | | | | | | | | | | | | |
| CORR FAN SPEED | = RPM | | | | | | | | | | | | |

ORIGINAL PAGE IS
OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0122 X0122C
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREQ 50 60 70 80 90 100 110 120 130 140 150 160

50 90.4 92.2 86.7 90.8 89.4 87.7 90.1 88.5 98.7 98.6 98.9 98.1 98.3 136.6

63 91.5 93.8 90.5 95.3 90.2 92.3 96.4 89.3 99.8 99.1 99.0 99.9 99.8 138.2

80 91.5 96.1 90.1 93.9 93.2 93.6 93.0 94.4 96.6 98.8 99.5 101.9 137.6

100 89.8 95.1 90.1 93.9 95.0 94.6 94.2 97.7 97.4 99.6 104.5 106.2 140.0

125 88.1 89.1 90.4 94.2 95.3 94.2 93.5 94.7 96.2 97.2 104.6 107.5 141.9

160 85.8 84.6 87.3 88.9 88.8 90.5 90.8 90.7 95.1 99.8 100.9 106.5 113.1 144.8

200 86.5 86.6 85.6 86.6 86.6 90.7 90.1 90.7 95.1 99.8 100.9 106.5 113.1 144.8

250 85.0 86.3 85.8 86.3 86.3 90.1 90.2 90.8 91.7 96.9 99.6 106.1 111.5 147.7

315 85.6 88.6 87.1 89.7 91.8 91.4 93.3 95.9 101.6 108.2 113.3 114.7 148.8

400 87.3 90.1 87.9 91.2 92.0 91.4 93.3 96.9 103.9 111.9 116.8 117.0 150.8

500 88.2 91.2 88.5 92.3 93.6 94.0 94.1 99.0 105.7 114.8 118.7 116.4 152.0

630 89.8 92.3 90.6 93.9 94.2 95.1 96.0 101.4 107.9 117.9 119.8 116.0 153.4

800 93.7 94.0 92.2 95.8 96.1 96.7 97.9 103.5 120.1 121.4 121.4 106.0 154.8

1000 101.4 102.0 99.0 100.8 99.1 98.5 99.6 105.8 121.6 121.7 121.7 104.1 155.9

1250 109.5 110.2 105.0 104.8 102.9 101.0 101.6 106.8 114.0 122.3 123.0 113.9 158.1

1600 113.5 113.5 109.3 104.4 102.3 102.6 108.6 115.2 122.2 122.2 121.0 112.6 157.6

2000 109.9 113.3 111.5 113.6 111.4 105.0 104.3 108.9 115.4 122.1 119.4 111.7 156.9

2500 108.1 109.2 108.5 112.7 114.3 110.7 108.9 109.5 115.4 122.1 119.4 111.7 156.9

3150 107.0 109.6 111.4 112.8 109.9 111.1 115.4 120.5 117.8 110.4 105.2 155.9

4000 106.2 108.0 106.5 109.3 108.6 111.2 113.6 116.6 110.7 103.7 153.3

5000 105.7 107.3 108.1 108.3 107.5 109.1 112.9 114.9 115.1 107.4 152.1

6300 103.4 106.4 105.3 107.1 108.0 108.9 108.5 113.7 115.4 117.6 114.4 106.9 151.4

8000 103.1 105.0 103.6 107.2 107.2 107.7 112.3 115.5 113.1 104.8 100.7 153.8

10000 102.0 104.5 103.3 105.8 107.2 106.5 107.7 111.7 114.1 115.5 111.9 104.4 153.5

12500 100.1 102.2 101.2 103.9 105.4 105.4 105.5 109.9 112.5 113.3 110.2 103.4 152.5

16000 96.9 99.4 101.9 103.8 103.5 104.3 108.2 111.3 111.5 108.5 100.3 95.5 152.2

20000 94.2 97.2 95.6 98.8 100.6 101.6 101.4 105.6 108.2 109.7 105.6 98.5 151.4

25000 90.8 93.6 95.7 98.5 99.1 99.5 102.1 104.1 106.1 100.6 95.9 89.3 150.3

31500 86.8 89.5 92.5 94.5 94.6 95.8 98.9 101.0 103.8 97.5 91.7 85.2 150.3

40000 81.4 86.0 87.7 91.0 90.9 91.7 95.0 97.5 101.3 94.5 87.7 80.4 151.1

50000 76.7 80.5 82.5 85.9 86.7 86.1 89.7 93.1 97.3 90.1 82.4 75.0 151.0

63000 70.1 74.6 76.7 80.3 81.0 80.4 84.8 89.1 93.6 85.7 77.1 69.0 152.1

80000 64.0 70.3 68.6 70.3 73.6 74.6 75.1 79.3 84.0 89.3 78.8 70.2 154.0

QASPL 118.5 120.0 117.9 120.0 120.1 119.0 118.6 122.3 126.2 131.8 131.4 126.0 122.5 168.2

PMLT 131.7 132.2 130.3 133.0 133.6 132.9 132.1 135.8 138.6 144.1 142.8 136.6 132.0

DBA 119.2 120.7 118.5 120.5 120.4 119.1 118.4 121.9 126.0 132.0 131.3 124.3 118.6

NASA SHOCK CELL/CIRC CONVCNOC NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH739 TEST DATE = 03-19-82 LOCAL = C41 ANECH CH CONFID = 1 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 44.00 PAMB HG = 29.55 RELHUM = 92.5 PCT
WIND DIR = DEO WIND/VEL = MPH EXT DIST = 40.0 FT EXT CONFID = ARC MIKE HT = NBFR

FNINI = LBS XNL RPM XNHR RPM = V8 = 2459.0 FPS AE8 = 20.4 SQ IN
FNRAMB = LBS XNL RPM XNHR RPM = V8 = 2459.0 FPS AE8 = 20.4 SQ IN

RUNPT = 400-0122 TAPE = X0122C TEST PT NO = 0122 NC = AE040 CORR FAN SPEED = RPM

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OF POOR QUALITY

4.3 Acoustic Data of Model 2

115
~~114~~

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0122 X01221

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 72.2 75.5 73.6 76.3 74.4 75.1 77.3 65.2 92.6 95.2 92.3 86.0 168.7
63 72.7 76.1 73.8 76.5 78.2 77.1 75.8 79.2 87.2 95.7 92.4 85.1 169.9
80 74.7 78.0 75.0 77.9 78.8 78.2 77.6 81.3 90.0 98.1 98.0 91.7 86.3 171.5
100 75.8 76.8 76.9 79.4 80.5 79.9 79.5 83.1 92.4 100.1 99.2 92.7 88.2 173.2
125 76.5 77.9 81.0 83.3 81.8 81.3 85.7 94.2 101.2 100.8 92.9 91.2 174.7
150 78.7 84.3 85.5 87.2 84.3 83.4 86.8 95.2 101.2 100.5 93.0 89.9 175.0
200 95.2 96.4 90.9 90.0 88.7 85.7 84.4 88.2 95.6 101.2 99.0 91.6 90.1 175.7
250 98.9 99.4 96.6 94.4 96.2 88.5 86.1 88.7 95.8 101.1 97.3 90.5 88.9 177.1
315 97.2 100.8 98.3 99.3 99.0 94.2 92.0 91.4 96.3 98.7 94.2 86.6 84.1 176.1
400 92.7 94.6 94.0 97.9 96.1 96.4 92.0 91.4 96.3 98.7 94.2 86.6 84.1 176.1
500 91.1 94.7 92.7 94.7 93.5 93.2 93.6 94.1 95.4 96.8 92.2 84.5 81.4 175.1
630 89.4 92.5 91.6 94.3 93.1 91.5 91.4 93.3 95.8 96.0 91.0 83.4 79.3 174.7
800 88.0 91.3 89.8 92.9 92.7 92.8 90.7 93.9 95.7 94.6 89.4 80.8 77.9 174.4
1000 85.8 90.4 89.9 91.7 92.0 90.9 89.8 92.3 94.3 93.7 88.0 79.9 75.8 173.9
1250 84.8 88.5 87.8 91.0 91.6 90.0 89.7 91.6 92.8 91.3 86.1 78.4 73.0 173.4
1500 82.5 86.8 89.4 89.5 88.7 87.2 89.5 91.7 89.5 84.1 74.5 68.8 172.9
2000 79.2 83.6 86.8 87.7 86.6 85.9 87.6 88.6 87.5 80.6 71.5 63.8 172.2
2500 73.8 79.3 83.8 84.2 84.2 82.5 84.3 84.3 83.4 74.5 66.6 55.7 171.0
3150 67.1 74.0 78.5 81.1 80.4 79.3 80.1 79.4 68.7 58.2 43.9 170.9
4000 59.4 67.2 69.6 72.5 73.0 72.5 72.8 73.5 72.9 60.3 46.2 25.4 171.3
5000 42.1 53.1 56.7 61.8 64.5 63.4 63.5 63.3 61.7 46.5 27.5 171.1
6300 21.3 36.6 42.3 47.1 50.4 50.4 47.7 47.3 48.1 44.7 25.2 171.9
8000 5.3 14.4 21.6 26.7 27.0 23.7 23.1 23.1 17.1 173.1

10000 12500 16000 20000 25000 31500 40000 50000 63000 80000

GASPL 103.5 105.8 103.5 104.9 104.6 102.5 100.5 102.3 106.4 110.4 108.5 101.9 98.5 187.6
PNL 108.2 111.4 111.5 111.6 110.0 108.0 109.8 113.4 115.5 111.2 103.8 100.5
DBA 97.7 100.7 99.3 101.5 101.3 100.1 98.6 100.5 102.7 103.4 99.1 91.5 88.6

MODEL AREA = 131.5 SQ CM (20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH739 TEST DATE = 03-19-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 44.00 PAMB HG = 29.55 RELHUM = 92.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIG = SL MIKE HT = NBFR

FNINI = LBS XNL RPM XNH XNHR = RPM V6 = 2459.0 FPS AE8 = 20.4 SQ IN
FNRAMB = LBS XNLR = RPM V18 = FPS AE18 = 0. SQ IN

RUNPT = 82F-400-0122 TAPE = X01221 TEST PT NO = 0122 NC = AE040 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0201 X0201F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 83.4 82.2 80.0 82.3 83.1 81.2 84.1 84.3 86.5 94.3 94.9 93.9 94.0 130.9
63 86.2 84.3 87.8 89.1 88.9 87.5 91.9 84.8 91.5 98.5 97.7 96.8 135.0
80 88.0 92.3 87.3 89.4 89.2 90.1 90.2 91.4 93.1 91.7 96.0 96.2 97.6 134.2
100 87.3 92.1 87.6 91.4 92.7 91.4 91.5 94.4 95.1 95.4 97.3 100.5 101.4 136.7
125 84.6 87.1 88.7 91.9 92.5 92.2 91.8 92.7 94.7 95.7 103.4 105.0 105.5 139.5
160 84.5 83.1 86.3 87.4 88.0 88.1 89.5 90.9 94.1 98.2 103.5 105.7 108.9 140.5
200 85.0 85.8 86.1 86.1 90.2 90.3 90.5 94.1 99.6 100.9 105.8 109.0 110.4 142.9
250 85.8 89.3 87.8 90.4 90.5 91.6 93.7 97.1 100.3 106.4 110.3 113.5 113.1 146.8
315 86.6 88.6 87.1 90.4 92.6 92.6 93.0 96.7 103.4 108.7 112.6 114.5 114.7 148.4
400 87.6 90.1 88.4 91.9 93.0 92.4 95.3 97.7 104.9 112.7 115.8 116.3 114.7 150.7
500 88.9 91.2 89.0 92.3 94.1 94.2 95.4 99.5 107.2 115.1 117.7 117.1 114.0 152.1
630 90.8 93.1 90.9 94.4 95.2 95.6 97.0 101.6 109.1 117.7 118.3 117.5 114.4 153.3
800 95.2 96.5 96.5 96.5 97.2 98.9 102.8 111.2 119.8 119.2 117.4 115.8 154.6
1000 101.7 103.2 99.0 100.3 99.1 99.2 100.6 105.0 112.8 120.8 119.7 117.9 115.0 155.4
1250 98.5 103.2 101.3 103.6 103.4 101.3 101.6 106.1 113.5 121.1 120.7 117.1 114.9 155.9
1600 101.0 100.3 101.4 101.0 101.0 103.3 107.6 114.2 121.0 119.9 121.0 114.6 111.3 155.2
2000 104.9 105.0 100.7 100.8 101.7 101.1 103.3 107.6 114.2 121.0 119.9 114.6 111.3 155.2
2500 105.4 104.7 102.7 104.7 103.3 101.9 102.9 108.2 113.9 120.9 117.9 113.2 109.2 154.8
3150 102.3 104.3 102.8 105.4 105.4 103.5 103.6 108.4 114.4 120.0 116.5 111.4 109.0 154.2
4000 100.5 101.5 100.3 103.3 104.6 104.7 109.8 113.2 118.9 115.9 110.4 107.2 153.5
5000 98.7 100.1 98.6 101.8 103.0 103.2 104.6 109.9 112.7 116.8 114.1 109.4 105.4 152.1
6300 96.4 98.7 97.6 100.6 101.8 102.7 104.3 108.9 112.2 116.3 112.9 108.6 104.1 151.7
8000 94.9 96.1 96.1 101.5 102.7 102.7 104.3 108.9 112.2 116.3 112.9 108.6 104.1 151.7
10000 93.5 96.1 95.8 98.6 101.0 101.3 103.0 107.3 110.2 115.1 110.2 103.7 100.9 150.8
12500 91.2 93.3 93.8 96.3 99.0 100.0 100.6 105.3 107.9 112.4 108.8 103.5 98.5 149.4
16000 88.3 90.8 90.3 94.6 97.2 97.9 99.5 103.1 107.0 110.4 107.5 100.2 95.9 149.0
20000 84.9 88.2 87.6 90.8 94.3 94.8 96.6 97.5 100.3 104.0 108.5 104.4 97.3 92.6 148.3
25000 81.9 84.6 84.6 87.6 90.9 92.3 93.9 97.5 101.1 104.6 100.1 95.0 87.9 147.1
31500 77.4 80.7 80.5 84.1 87.1 88.2 89.9 94.0 98.2 103.1 97.4 92.3 83.5 147.9
40000 72.9 76.2 76.9 78.9 83.1 84.5 86.3 90.4 94.9 95.4 87.3 79.4 148.9
50000 68.0 71.5 71.2 73.9 78.0 79.8 80.7 85.4 91.3 97.4 91.2 83.7 74.5 149.8
63000 61.8 67.1 66.2 68.5 72.3 74.5 75.2 80.7 86.4 92.3 87.4 78.6 69.7 150.2
80000 57.2 63.0 61.8 66.3 67.6 68.6 68.8 75.4 82.0 87.2 83.0 72.2 61.8 152.1

GASPL 112.0 113.0 110.9 113.3 114.0 113.6 114.7 119.2 124.4 130.8 129.7 127.2 125.1 166.5
PNLT 127.1 127.8 128.1 124.6 127.0 127.7 132.3 137.3 143.1 141.3 137.8 135.2
DBA 178.8 184.3 183.2 183.9 188.4 190.0 191.0 197.1 203.4 208.8 204.3 194.3 184.6

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH721 TEST DATE = 03-17-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 53.00 PAMB HG = 29.55 RELHUM = 69.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2281.5 FPS AEB AE18 = 20.4 SQ IN
FNRAMB = LBS XNLR = RPM V18 = 2281.5 FPS AEB AE18 = 20.4 SQ IN

RUNPT = 82F-ZER-0201 TAPE = X0201F TEST PT NO = 0201 NC = AE041 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 8ZF-ZER-0201 X02011

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

| | | | | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| FREQ | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 |
| 50 | 66.5 | 70.6 | 69.9 | 74.2 | 75.7 | 75.2 | 77.9 | 79.9 | 86.4 | 93.2 | 94.8 | 93.0 |
| 60 | 67.8 | 71.7 | 70.5 | 74.5 | 76.8 | 77.0 | 78.0 | 81.8 | 88.8 | 95.5 | 96.6 | 93.8 |
| 80 | 69.6 | 73.5 | 72.3 | 76.6 | 77.8 | 78.3 | 79.6 | 83.8 | 90.6 | 98.1 | 97.2 | 94.1 |
| 100 | 74.0 | 74.1 | 74.9 | 78.7 | 79.4 | 79.9 | 81.4 | 84.9 | 92.7 | 100.1 | 98.0 | 93.9 |
| 125 | 80.3 | 83.5 | 80.3 | 82.4 | 81.6 | 81.9 | 83.1 | 87.1 | 94.1 | 101.1 | 98.4 | 94.2 |
| 160 | 76.9 | 83.3 | 82.5 | 85.5 | 85.8 | 83.8 | 84.0 | 88.0 | 94.7 | 101.2 | 99.2 | 93.3 |
| 200 | 79.2 | 80.1 | 79.3 | 82.1 | 83.6 | 83.4 | 85.1 | 89.0 | 95.1 | 99.7 | 99.2 | 92.0 |
| 250 | 82.8 | 84.6 | 81.5 | 82.4 | 83.7 | 83.2 | 85.3 | 89.2 | 95.0 | 100.6 | 97.2 | 90.0 |
| 315 | 82.9 | 83.9 | 83.2 | 86.0 | 85.1 | 83.8 | 84.6 | 89.5 | 94.3 | 100.1 | 95.4 | 88.0 |
| 400 | 79.2 | 83.2 | 83.0 | 86.3 | 86.9 | 85.1 | 85.1 | 89.3 | 94.6 | 98.9 | 93.5 | 85.6 |
| 500 | 77.0 | 80.0 | 80.1 | 84.0 | 85.9 | 85.9 | 85.9 | 90.5 | 93.0 | 97.4 | 92.4 | 84.0 |
| 630 | 74.7 | 78.1 | 82.2 | 83.9 | 84.3 | 85.5 | 89.3 | 92.2 | 94.9 | 90.1 | 82.2 | 72.9 |
| 800 | 71.9 | 76.4 | 80.7 | 82.4 | 83.5 | 84.9 | 89.0 | 91.4 | 94.0 | 88.4 | 80.8 | 70.5 |
| 1000 | 70.0 | 74.5 | 79.1 | 82.0 | 82.7 | 83.2 | 87.5 | 90.0 | 92.3 | 86.9 | 77.1 | 67.9 |
| 1250 | 68.1 | 73.1 | 74.5 | 78.3 | 81.4 | 81.8 | 83.4 | 87.0 | 88.9 | 92.1 | 84.8 | 74.3 |
| 1600 | 64.9 | 69.7 | 72.1 | 75.7 | 79.1 | 80.3 | 80.6 | 84.7 | 86.2 | 88.8 | 82.5 | 72.8 |
| 2000 | 61.1 | 66.7 | 68.2 | 73.8 | 77.1 | 78.0 | 79.4 | 82.3 | 84.9 | 86.3 | 80.2 | 67.8 |
| 2500 | 55.8 | 62.9 | 64.6 | 69.4 | 73.7 | 74.5 | 76.0 | 78.9 | 81.0 | 83.1 | 75.3 | 62.1 |
| 3150 | 49.5 | 56.8 | 59.7 | 64.6 | 68.9 | 70.6 | 71.9 | 74.5 | 76.2 | 76.8 | 67.6 | 54.9 |
| 4000 | 38.7 | 48.1 | 51.8 | 57.8 | 62.1 | 63.6 | 64.9 | 67.7 | 69.5 | 70.5 | 58.7 | 43.2 |
| 5000 | 24.5 | 36.1 | 42.0 | 47.1 | 53.1 | 55.0 | 56.3 | 58.7 | 60.3 | 60.3 | 47.0 | 24.5 |
| 6300 | 1.7 | 17.2 | 24.2 | 31.3 | 37.9 | 40.5 | 40.6 | 42.8 | 44.4 | 43.1 | 25.0 | 168.2 |
| 8000 | 6.8 | 14.1 | 17.5 | 17.0 | 18.9 | 18.9 | 18.9 | 18.1 | 13.1 | 168.6 | 170.5 | 168.2 |

ORIGINAL PAGE IS
OF POOR QUALITY

| | | | | | | | | | | | | | | |
|-------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| GASPL | 89.4 | 92.1 | 91.1 | 94.2 | 95.2 | 94.9 | 95.8 | 99.9 | 104.7 | 110.1 | 107.6 | 102.7 | 96.5 | 184.7 |
| PML | 94.4 | 97.4 | 96.6 | 100.7 | 102.2 | 101.6 | 102.7 | 106.4 | 110.9 | 115.3 | 111.9 | 103.5 | 96.0 | |
| DBA | 82.7 | 85.9 | 85.8 | 89.4 | 91.2 | 91.5 | 92.4 | 96.4 | 99.4 | 103.1 | 98.4 | 90.8 | 83.1 | |

MODEL AREA = 131.5 SQ CM (20.4 SQ IN)
SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)
DIAMETER RATIO = 8.288
FREQ SHIFT = -9

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH721
TEST DATE = 03-17-82
LOCAT = C41 ANECH CH
CONFIG = 2
MODEL = AX
FLVEL = 0. FPS
IAPLHA = SB59
LEGA = NO
EXT DIST = 2400.0 FT
PML AREA = FULL SPHERE
TAMB F = 53.00
PAMB HG = 29.55
RELHUM = 69.7 PCT
WIND DIR =
WIND VEL =
DEG WIND VEL =
MPH

FNINI =
LBS XNL
RPM
XNH
RPM
V8
= 2281.5 FPS
AE8
= 20.4 SQ IN
FNAMB =
LBS XNLR
RPM
XNHR
=

TEST PT NO = 020
NC = AE041
CORR FAN SPEED =
RPM
ZER-0201
TAPE = X02011

IDENTIFICATION - 82F-400-0202 X02021

ANGLES MEASURED FROM INLET, DEGREES

[illegible]

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0203 X0203C

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 87.2 82.2 84.1 80.7 80.1 85.0 88.2 96.3 94.7 94.9 94.8 131.8

60 89.0 93.3 87.8 90.4 90.2 91.3 92.4 93.8 94.4 96.0 97.7 98.6 135.2

100 88.1 93.3 88.4 92.2 92.7 92.4 92.2 95.9 96.2 97.6 101.8 102.7 137.6

125 85.1 87.4 88.9 91.7 92.5 92.3 93.2 95.2 97.5 103.9 105.5 106.5 140.1

160 84.5 83.6 86.3 87.9 88.0 88.3 90.7 91.9 94.6 99.9 104.0 106.7 141.3

200 86.0 86.6 85.8 89.6 89.7 91.6 91.0 94.6 99.8 102.2 106.5 110.0 143.8

250 86.3 88.3 88.3 91.6 91.0 92.3 94.0 97.4 100.8 107.2 111.5 114.5 147.7

315 87.1 89.6 89.6 91.7 93.5 93.1 94.0 97.4 103.9 109.7 113.6 115.4 149.3

400 88.1 90.6 89.4 92.2 93.8 93.1 95.8 98.4 105.4 113.2 116.6 118.2 151.3

500 89.2 92.5 89.7 93.0 94.4 94.7 96.1 99.8 108.0 115.6 118.4 117.1 152.6

630 91.3 93.3 91.1 94.6 96.2 96.6 97.5 102.1 110.1 118.4 117.2 114.4 153.9

800 95.4 94.5 94.0 97.0 97.4 97.2 99.6 103.8 112.0 120.3 119.7 117.9 155.1

1000 101.7 103.2 98.8 100.8 99.6 99.5 100.9 105.0 113.8 121.3 120.7 118.1 156.1

1250 103.1 103.5 99.7 101.3 102.2 102.1 104.0 108.8 115.2 121.5 119.3 114.3 156.6

1500 107.7 103.8 101.5 103.6 101.8 102.4 106.8 114.5 121.3 120.5 117.1 114.4 156.0

1750 100.7 99.8 101.4 100.6 101.5 103.1 108.2 115.3 120.9 121.0 115.4 112.9 155.9

2000 102.9 102.9 100.7 103.5 103.3 101.9 103.9 109.0 114.9 121.9 117.4 112.7 155.3

2500 101.0 103.1 100.8 103.6 104.4 103.3 104.6 109.4 114.9 120.3 116.6 111.4 154.6

3150 101.0 103.1 100.8 103.6 104.4 103.3 104.6 109.4 114.9 120.3 116.6 111.4 154.6

4000 99.5 100.5 98.8 102.3 103.6 103.9 104.7 110.3 114.2 119.6 115.6 109.9 153.9

5000 97.7 99.6 98.1 101.1 103.0 103.0 105.1 109.2 113.7 117.6 113.9 108.9 152.5

6300 95.9 98.4 97.6 100.3 102.3 103.0 104.5 109.4 113.4 117.3 112.9 106.9 152.3

8000 94.6 96.6 95.1 99.2 101.7 101.5 103.5 107.8 112.0 116.1 111.6 104.8 151.4

10000 93.0 95.6 95.1 98.8 101.0 101.8 103.8 107.8 111.2 115.3 110.5 103.9 151.2

12500 91.0 93.3 92.8 96.3 99.5 100.2 101.6 105.8 109.1 113.4 108.0 102.8 150.0

16000 87.3 90.1 89.3 93.8 97.2 98.1 99.5 103.6 108.0 111.7 106.2 99.9 149.6

20000 84.4 88.0 87.4 91.1 94.1 95.6 96.9 101.3 104.8 109.7 103.9 97.3 149.0

25000 81.1 84.3 84.6 87.9 91.4 92.8 94.4 98.3 102.1 105.9 99.8 95.2 148.0

31500 77.1 80.9 80.5 84.1 87.3 88.4 90.4 95.0 99.5 104.1 97.6 91.0 146.7

40000 72.2 76.2 76.9 79.4 83.6 84.5 86.3 91.7 96.4 103.1 94.9 87.8 150.8

50000 67.2 71.7 71.2 73.6 78.5 79.5 80.9 86.6 92.3 98.6 90.7 83.2 150.8

63000 61.8 67.1 66.4 67.8 73.3 74.5 75.4 81.4 87.9 93.3 86.4 78.1 151.0

80000 57.5 63.2 63.0 61.4 66.3 67.6 69.3 76.1 83.0 89.2 82.5 72.2 153.5

DBA 111.4 112.7 110.3 113.0 113.8 113.4 114.9 119.7 125.5 131.6 129.8 126.2 123.6

PWL 125.6 126.9 123.4 127.3 128.2 126.8 128.1 132.9 138.1 143.9 141.4 137.6 135.2

CASPL 110.9 112.3 110.1 112.9 113.9 113.7 115.2 119.8 125.4 131.4 130.0 127.3 125.3 167.1

PNL 124.1 125.4 123.4 126.2 127.2 126.8 128.1 132.9 138.1 143.9 141.4 137.6 135.2

NASA SHOCK CELL/CIRCULAR C-D NO2/AX/SC-2/NAS3-22514

VEHICLE = ADH222 TEST DATE = 03-17-82 LOCATION = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS
WIND DIR = 8859 DEG WIND VEL = NO MPH PWL AREA = FULL SPHERE EXT DIST = 40.0 FT TAMB F = 53.00 PAMB HG = 29.55 RELHUM = 69.7 PCT
FINI = LBS XNL RPM XNH XNHR = RPM V8 = 2333.5 FPS AE6 = 20.4 SQ IN FPS AE18 = 0. SQ IN
FNAMB = LBS XNLR RPM = X0203C TEST PT NO = 0203 NC = AE041 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0203 X0203F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50

63

80

100

125

160

200

250

315

400

500

630

800

1000

1250

1600

2000

2500

3150

4000

5000

6300

8000

10000

12500

16000

20000

25000

31500

40000

50000

63000

80000

100000

125000

160000

200000

250000

315000

400000

500000

630000

800000

1000000

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH722 TEST DATE = 03-17-82
IAPLHA = SB59
WIND DIR = DEG WIND VEL = MPH
LOCAL = C41 ANECH CH CONFIG = 2
MODEL = AX
FLVEL = 0. FPS
RELHUM = 69.7 PCT
TAMB F = 53.00
PAMB HG = 29.55
MIKE HT =
NBFR =

FNINI = LBS XNL RPM
XNH XNHR RPM
V8 V18
= 2333.5 FPS
AE8 AE18
= 20.4 SQ IN
= 0. SQ IN

RUNPT = 82F-ZER-0203 TAPE = X0203F
TEST PT NO = 0203 NC = AE041
CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0204 X0204C
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 85.6 | 84.5 | 81.3 | 82.8 | 82.0 | 80.0 | 84.1 | 86.9 | 88.6 | 97.3 | 96.9 | 93.4 | 97.1 |
| 63 | 87.1 | 85.5 | 89.9 | 87.6 | 87.3 | 85.3 | 90.6 | 92.4 | 92.7 | 98.3 | 98.2 | 93.3 | 97.7 |
| 80 | 87.8 | 85.0 | 89.2 | 86.2 | 86.7 | 89.4 | 90.5 | 92.9 | 91.6 | 94.4 | 95.5 | 99.9 | 134.0 |
| 100 | 87.4 | 81.5 | 85.6 | 89.8 | 90.6 | 90.0 | 90.1 | 93.1 | 93.5 | 93.3 | 96.2 | 100.2 | 136.0 |
| 125 | 84.3 | 86.5 | 85.5 | 89.5 | 90.7 | 90.4 | 90.0 | 91.4 | 92.3 | 93.9 | 100.6 | 103.5 | 138.0 |
| 160 | 83.1 | 81.1 | 84.0 | 85.8 | 85.4 | 86.5 | 88.5 | 91.0 | 95.9 | 101.8 | 104.2 | 108.1 | 139.1 |
| 200 | 83.3 | 84.0 | 82.7 | 85.5 | 86.5 | 87.2 | 87.8 | 92.1 | 96.1 | 96.9 | 102.3 | 107.2 | 140.9 |
| 250 | 82.7 | 83.2 | 87.3 | 87.3 | 87.3 | 87.7 | 89.1 | 93.8 | 96.1 | 101.6 | 107.5 | 111.2 | 144.0 |
| 315 | 83.0 | 85.1 | 83.3 | 87.1 | 88.9 | 88.6 | 89.7 | 93.4 | 98.4 | 105.0 | 110.1 | 112.5 | 145.8 |
| 400 | 85.3 | 86.8 | 84.6 | 87.9 | 88.9 | 89.1 | 89.7 | 93.9 | 99.9 | 108.0 | 112.8 | 114.0 | 147.4 |
| 500 | 85.9 | 87.4 | 89.3 | 91.1 | 90.7 | 91.6 | 95.8 | 101.7 | 110.3 | 115.2 | 113.9 | 107.8 | 148.6 |
| 630 | 87.0 | 89.1 | 92.5 | 92.5 | 92.6 | 94.0 | 98.4 | 104.1 | 113.7 | 116.8 | 114.0 | 105.4 | 150.2 |
| 800 | 89.7 | 89.7 | 88.5 | 92.5 | 93.6 | 93.7 | 95.4 | 100.3 | 106.8 | 116.3 | 118.0 | 112.9 | 151.5 |
| 1000 | 94.2 | 94.2 | 91.3 | 95.5 | 95.6 | 95.2 | 96.9 | 101.6 | 108.5 | 118.1 | 119.2 | 112.1 | 152.8 |
| 1250 | 94.7 | 98.5 | 96.0 | 98.3 | 98.7 | 97.8 | 98.4 | 103.6 | 110.6 | 119.4 | 119.5 | 111.4 | 153.2 |
| 1600 | 97.8 | 97.8 | 95.1 | 97.6 | 98.4 | 98.8 | 99.6 | 104.4 | 111.3 | 118.1 | 120.3 | 111.4 | 153.6 |
| 2000 | 98.9 | 100.6 | 97.7 | 98.6 | 98.4 | 98.8 | 99.6 | 104.4 | 111.7 | 118.8 | 119.8 | 111.9 | 153.8 |
| 2500 | 98.9 | 100.2 | 98.5 | 101.5 | 101.6 | 99.5 | 100.4 | 105.8 | 111.9 | 118.4 | 119.2 | 110.7 | 153.4 |
| 3150 | 96.8 | 97.3 | 101.4 | 102.7 | 101.4 | 102.3 | 106.8 | 111.7 | 116.7 | 115.4 | 108.7 | 104.0 | 152.5 |
| 4000 | 95.5 | 97.0 | 95.1 | 99.1 | 100.7 | 101.4 | 102.3 | 106.8 | 111.7 | 116.7 | 115.4 | 108.7 | 151.6 |
| 5000 | 93.7 | 96.3 | 94.1 | 97.8 | 99.0 | 99.7 | 102.4 | 106.4 | 111.4 | 114.6 | 107.7 | 100.7 | 150.5 |
| 6300 | 91.9 | 95.2 | 93.1 | 96.6 | 98.2 | 99.9 | 101.2 | 106.7 | 111.2 | 114.3 | 106.1 | 99.9 | 150.2 |
| 8000 | 90.9 | 92.8 | 91.6 | 95.7 | 97.9 | 99.5 | 100.4 | 105.3 | 110.5 | 112.9 | 104.6 | 99.2 | 149.4 |
| 10000 | 89.5 | 92.8 | 91.6 | 94.8 | 96.0 | 98.8 | 100.8 | 105.0 | 108.7 | 112.3 | 103.4 | 97.9 | 148.9 |
| 12500 | 88.0 | 89.7 | 89.0 | 92.5 | 96.2 | 97.7 | 99.3 | 103.5 | 107.4 | 110.4 | 108.3 | 96.0 | 147.9 |
| 16000 | 84.4 | 87.2 | 86.1 | 90.7 | 94.2 | 95.7 | 97.3 | 101.4 | 106.0 | 106.5 | 99.2 | 93.7 | 147.3 |
| 20000 | 81.4 | 85.0 | 83.9 | 87.6 | 91.6 | 92.6 | 94.4 | 98.4 | 103.0 | 105.6 | 96.5 | 90.4 | 146.3 |
| 25000 | 78.2 | 81.1 | 81.3 | 84.0 | 88.6 | 90.4 | 92.1 | 95.2 | 99.8 | 101.9 | 99.3 | 93.4 | 145.2 |
| 31500 | 73.9 | 77.7 | 76.9 | 80.2 | 84.1 | 86.0 | 87.5 | 92.2 | 96.2 | 100.3 | 89.5 | 82.7 | 145.7 |
| 40000 | 69.4 | 72.4 | 73.3 | 75.3 | 80.2 | 82.0 | 83.7 | 88.9 | 93.4 | 96.6 | 85.8 | 77.6 | 147.5 |
| 50000 | 64.1 | 67.3 | 67.2 | 69.8 | 74.8 | 76.8 | 77.7 | 82.8 | 89.4 | 95.7 | 80.9 | 70.9 | 148.6 |
| 63000 | 59.9 | 64.0 | 61.6 | 63.9 | 68.7 | 70.1 | 71.1 | 77.3 | 84.7 | 92.6 | 75.4 | 64.0 | 150.2 |
| 80000 | 57.8 | 61.6 | 59.3 | 58.8 | 62.0 | 62.6 | 64.3 | 71.9 | 79.6 | 92.0 | 84.5 | 67.7 | 155.2 |
| DBA | 107.2 | 108.8 | 106.7 | 109.8 | 110.7 | 110.5 | 111.7 | 116.5 | 122.2 | 128.4 | 129.4 | 122.6 | 116.3 |
| PNLT | 120.2 | 121.8 | 119.9 | 123.3 | 124.5 | 124.0 | 125.1 | 129.6 | 135.0 | 140.5 | 141.5 | 135.4 | 130.0 |
| QASPL | 106.8 | 108.5 | 106.4 | 109.6 | 110.7 | 110.8 | 112.1 | 116.7 | 122.1 | 128.1 | 129.2 | 123.9 | 164.9 |

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH718 TEST DATE = 03-16-82 LOCAT = C41 ANECH CH CNF10 = 2 MODEL = AX FLTVL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 77.00 MIKE HT = 29.25 RELHUM = 39.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNF10 = ARC NBFR =

FNINI = LBS XNL = RPM XNH XNHR = RPM V8 = 2343.0 FPS AE8 = 20.4 SO IN
FNRAMB = LBS XNL = RPM XNH XNHR = RPM V8 = 2343.0 FPS AE8 = 20.4 SO IN

RUNPT = 82F-400-0204 TAPE = X0204C TEST PT NO = 0204 NC = AE039 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0204 X0204F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.
PWL

63
80
100
125
160

200
250
315
400
500
630
800
1000

1250
1600
2000
2500
3150
4000
5000
6300
8000
10000
12500
16000
20000
25000
31500
40000
50000
63000
80000

DBA
PNLT
PNL
CASPL

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000
FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00
REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICLE = ADH718
TEST DATE = 03-16-82
LOCAL = C41 ANECH CH
CONFIG = 2
MODEL = AX
FLVEL = 400. FPS
PAMB HG = 29.25
MIKE HT =
NBFR =

WIND DIR =
WIND VEL =
DEG
WIND VEL =
MPH
EXT DIST = 40.0 FT
EXT DIST =
PWL AREA = FULL SPHERE
TAMB F = 77.00
CONFIG = 2
MODEL = AX
FLVEL = 400. FPS
PAMB HG = 29.25
MIKE HT =
NBFR =

VEHICLE = ADH718
TEST DATE = 03-16-82
LOCAL = C41 ANECH CH
CONFIG = 2
MODEL = AX
FLVEL = 400. FPS
PAMB HG = 29.25
MIKE HT =
NBFR =

VEHICLE = ADH718
TEST DATE = 03-16-82
LOCAL = C41 ANECH CH
CONFIG = 2
MODEL = AX
FLVEL = 400. FPS
PAMB HG = 29.25
MIKE HT =
NBFR =

VEHICLE = ADH718
TEST DATE = 03-16-82
LOCAL = C41 ANECH CH
CONFIG = 2
MODEL = AX
FLVEL = 400. FPS
PAMB HG = 29.25
MIKE HT =
NBFR =

VEHICLE = ADH718
TEST DATE = 03-16-82
LOCAL = C41 ANECH CH
CONFIG = 2
MODEL = AX
FLVEL = 400. FPS
PAMB HG = 29.25
MIKE HT =
NBFR =

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0204 X02041

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| PWL | 69.6 | 71.9 | 69.8 | 72.8 | 73.3 | 73.3 | 72.1 | 71.3 | 73.6 | 81.7 | 88.8 | 92.2 | 90.2 |
| 63 | 70.5 | 72.7 | 70.4 | 73.1 | 75.6 | 73.8 | 73.5 | 76.3 | 83.7 | 91.9 | 93.7 | 90.9 | 83.7 |
| 50 | 69.6 | 71.9 | 69.8 | 72.8 | 73.3 | 73.3 | 72.1 | 71.3 | 73.6 | 81.7 | 88.8 | 92.2 | 90.2 |
| 80 | 72.4 | 74.2 | 71.2 | 74.9 | 77.0 | 75.7 | 75.6 | 78.5 | 86.5 | 94.7 | 95.2 | 90.8 | 84.5 |
| 100 | 73.5 | 75.8 | 73.8 | 76.8 | 78.2 | 76.9 | 77.0 | 80.2 | 88.7 | 96.9 | 97.1 | 90.8 | 84.5 |
| 125 | 75.9 | 78.3 | 74.8 | 78.1 | 79.8 | 78.5 | 78.6 | 81.5 | 90.1 | 97.3 | 97.6 | 90.7 | 88.2 |
| 150 | 77.7 | 78.7 | 76.0 | 80.1 | 83.0 | 81.1 | 80.2 | 83.7 | 91.6 | 97.1 | 98.2 | 90.5 | 87.2 |
| 200 | 78.6 | 83.3 | 81.1 | 83.1 | 82.6 | 82.2 | 81.4 | 84.5 | 92.2 | 97.9 | 97.9 | 91.1 | 87.9 |
| 250 | 80.6 | 81.2 | 79.4 | 81.9 | 82.6 | 82.3 | 82.4 | 85.4 | 89.0 | 90.7 | 87.3 | 77.8 | 72.4 |
| 315 | 82.4 | 84.8 | 82.2 | 82.9 | 86.0 | 83.0 | 82.4 | 86.0 | 93.2 | 96.7 | 96.4 | 90.0 | 86.7 |
| 400 | 81.6 | 84.3 | 83.1 | 86.0 | 87.4 | 84.9 | 83.6 | 86.6 | 92.9 | 96.3 | 93.7 | 87.6 | 84.5 |
| 500 | 80.8 | 83.9 | 82.7 | 86.4 | 85.5 | 83.8 | 84.7 | 87.6 | 92.2 | 93.7 | 92.4 | 85.8 | 81.4 |
| 630 | 79.0 | 81.8 | 80.3 | 84.1 | 84.0 | 83.8 | 84.8 | 87.0 | 91.7 | 93.1 | 90.5 | 83.5 | 79.4 |
| 800 | 76.7 | 80.7 | 79.1 | 82.8 | 83.5 | 83.8 | 83.4 | 86.9 | 90.9 | 91.5 | 89.0 | 81.5 | 77.9 |
| 1000 | 77.1 | 81.4 | 79.4 | 82.3 | 83.0 | 83.2 | 82.4 | 85.4 | 89.0 | 90.7 | 87.3 | 77.8 | 72.4 |
| 1250 | 75.3 | 77.5 | 77.5 | 81.1 | 83.0 | 82.3 | 82.6 | 84.9 | 87.7 | 88.7 | 84.6 | 77.8 | 72.4 |
| 1500 | 72.9 | 77.6 | 76.8 | 79.6 | 80.9 | 80.9 | 83.1 | 86.4 | 86.2 | 82.4 | 74.1 | 68.2 | 67.5 |
| 2000 | 69.8 | 73.5 | 73.3 | 76.5 | 78.7 | 78.8 | 80.7 | 83.4 | 83.4 | 78.9 | 73.3 | 64.5 | 61.8 |
| 2500 | 64.0 | 69.3 | 69.2 | 73.7 | 75.5 | 75.3 | 76.9 | 79.9 | 79.2 | 73.3 | 64.5 | 54.0 | 54.0 |
| 3150 | 57.1 | 64.1 | 64.5 | 68.4 | 71.2 | 71.7 | 71.5 | 72.2 | 75.1 | 75.7 | 68.4 | 56.0 | 41.3 |
| 4000 | 46.9 | 54.6 | 57.2 | 60.8 | 63.7 | 64.4 | 63.9 | 65.8 | 69.2 | 70.2 | 61.0 | 44.2 | 22.6 |
| 5000 | 31.9 | 42.8 | 45.8 | 50.7 | 54.8 | 55.6 | 55.1 | 57.1 | 59.4 | 60.1 | 49.3 | 25.5 | |
| 6300 | 9.3 | 22.9 | 29.7 | 34.6 | 39.3 | 40.5 | 39.1 | 40.3 | 43.6 | 43.7 | 28.5 | | |

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MODEL AREA = 131.5 SQ CM (20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

NASA SHOCK CELL/CIRCULAR C-D NO2/AX/SC-2/NAS3-22514

VEHICL = ADH718 TEST DATE = 03-16-82 LOCAT = C41 ANECH CH CNFIG = 2 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 77.00 MIKE HT = 29.25 RELHUM = 39.5 PCT
WIND DIR = SB59 DEQ WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIG = SL NBFR =

FNINI = LBS XNL RPM XNH XNHR = = = RPM V8 = 2343.0 FPS AE8 AE18 = 20.4 SQ IN
FNRAMB = LBS XNLR = = = RPM V8 = 2343.0 FPS AE8 AE18 = 20.4 SQ IN

RUNPT = 82F-400-0204 TAPE = X02041 TEST PT NO = 0204 NC = AE039 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0205 X0205C

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 83.4 83.0 84.2 83.5 84.1 80.2 80.4 85.0 89.0 95.1 94.9 94.1 95.0 131.5

63 87.2 86.0 90.5 91.6 90.2 88.5 90.4 90.1 93.8 97.9 98.5 97.4 98.6 135.6

80 89.5 93.3 87.8 90.9 91.0 91.3 91.0 92.1 94.3 96.5 96.4 98.1 135.2

100 86.3 93.6 86.6 92.7 93.7 92.4 92.7 95.7 95.9 96.4 98.1 102.0 103.2 137.9

125 85.9 87.9 89.4 92.7 93.3 93.2 92.5 93.7 95.7 96.5 104.4 106.3 107.2 140.7

150 85.0 84.1 86.6 88.6 88.7 89.1 90.2 92.1 94.8 99.2 104.3 107.0 109.9 141.5

200 86.8 87.1 86.1 89.9 91.2 91.8 92.0 95.4 100.1 102.2 107.0 112.4 144.5

250 86.8 90.6 88.3 91.6 91.2 92.3 94.2 97.6 101.1 106.9 111.3 114.5 147.7

315 87.6 89.6 87.6 91.4 93.0 93.1 94.3 97.7 103.6 108.9 113.3 115.9 149.2

400 88.9 92.4 93.5 93.1 96.5 98.4 106.1 112.9 116.1 117.0 115.2 151.1

500 89.7 92.2 90.0 93.3 94.9 95.5 96.4 100.0 108.0 115.3 117.9 115.3 152.5

630 88.8 91.1 88.9 92.4 93.5 93.1 96.5 98.4 106.1 112.9 116.1 117.0 151.1

800 91.8 94.1 92.1 95.4 95.7 96.1 98.0 102.4 110.6 118.7 119.1 118.0 154.1

1000 101.9 103.7 99.0 100.8 100.1 99.7 101.1 105.8 114.5 121.8 119.7 118.6 156.2

1250 98.7 104.0 102.5 104.6 104.1 101.8 102.4 106.8 115.0 121.8 120.2 117.4 156.3

1500 100.2 99.8 98.8 101.3 102.4 101.8 103.4 108.4 115.8 121.9 120.5 115.9 156.2

2000 101.9 103.3 99.7 101.1 102.2 102.3 104.5 108.6 116.0 122.5 118.8 114.8 156.1

2500 101.4 101.7 100.5 102.7 102.8 103.4 109.2 117.2 117.2 113.2 109.7 155.5

3150 100.0 101.8 100.6 102.6 103.7 103.0 104.6 109.6 115.4 120.5 116.3 111.7 154.6

4000 98.8 100.5 98.3 101.6 102.9 103.1 104.7 110.6 114.7 119.4 109.9 107.7 153.6

5000 97.2 98.3 97.8 100.3 102.3 102.5 104.4 108.9 113.9 117.6 113.1 108.2 152.3

6300 95.2 96.8 96.8 99.8 101.8 103.2 104.3 109.4 113.7 117.1 112.6 107.4 152.2

8000 93.9 96.3 95.3 99.2 101.5 102.0 103.0 108.1 112.5 115.9 111.4 105.6 151.4

10000 92.5 95.1 98.3 101.3 101.5 103.5 107.5 111.2 115.3 110.0 104.9 100.7 151.2

12500 90.2 93.0 93.0 96.5 99.5 100.2 101.3 105.5 109.6 113.6 107.5 103.0 150.2

16000 87.6 90.3 90.3 94.1 96.9 98.4 99.7 103.6 108.2 111.2 105.7 99.9 149.4

20000 84.2 88.0 87.4 90.8 94.6 95.6 97.2 101.3 105.8 109.7 103.4 97.0 149.2

25000 80.4 84.8 84.8 87.4 91.4 92.6 94.7 98.0 102.3 106.4 99.6 95.2 148.2

31500 76.4 80.9 80.5 83.8 87.6 88.4 90.2 95.3 99.2 104.6 97.4 90.8 148.9

40000 71.9 76.0 77.1 79.4 83.8 85.2 86.8 91.4 96.2 102.6 94.7 87.5 150.5

50000 67.0 72.2 71.7 74.1 78.5 80.0 81.7 86.4 90.4 93.4 86.4 77.8 151.2

63000 62.0 68.6 66.7 68.5 73.1 75.0 76.2 81.7 87.9 93.5 86.4 72.0 153.4

80000 58.0 64.0 62.8 61.4 66.3 68.1 70.1 76.4 83.5 88.9 82.0 70.9 153.4

GA SPL 110.3 112.1 110.2 112.7 113.8 113.7 115.2 119.9 125.8 131.7 129.6 127.6 125.7 167.2

PNLT 124.7 126.2 124.5 126.9 126.8 126.5 128.1 133.1 138.5 144.1 141.5 138.0 135.6

DBA 110.7 112.3 110.4 112.7 113.6 113.3 114.9 119.8 126.0 131.9 129.3 126.5 123.9

NASA SHOCK CELL/CIRCULAR C-D NO2/AX/SC-2/NAS3-22514

VEHICL = ADH723 TEST DATE = 03-17-82 LOCAL = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 53.00 PAMB HG = 29.55 RELHUM = 69.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBRF

FNINI = LBS XNL RPM XNH RPM XNHR = RPM V8 = 2365.3 FPS AE8 = 20.4 SQ IN
FNRAMB = LBS XNLR RPM XNHR = RPM V8 = 2365.3 FPS AE8 = 20.4 SQ IN
RUNPT = ZER-0205 TAPE = X0205C TEST PT NO = 0205 NC = AE041 CORR FAN SPEED = RPM

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DATPRG - FLIRAN

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0205 X0205F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160

PWL

| | | | | | | | | | | | | | | | | | | | | | | |
|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 63 | 80 | 100 | 125 | 160 | 200 | 250 | 315 | 400 | 500 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 2500 | 3150 | 4000 | 5000 | 6300 | 8000 |
| 83.4 | 87.2 | 89.5 | 93.3 | 97.9 | 102.8 | 107.8 | 112.8 | 117.8 | 122.8 | 127.8 | 132.8 | 137.8 | 142.8 | 147.8 | 152.8 | 157.8 | 162.8 | 167.8 | 172.8 | 177.8 | 182.8 | 187.8 |

| | | | | | | | | | | | | | | | | | | | | | | |
|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 63 | 80 | 100 | 125 | 160 | 200 | 250 | 315 | 400 | 500 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 2500 | 3150 | 4000 | 5000 | 6300 | 8000 |
| 83.4 | 87.2 | 89.5 | 93.3 | 97.9 | 102.8 | 107.8 | 112.8 | 117.8 | 122.8 | 127.8 | 132.8 | 137.8 | 142.8 | 147.8 | 152.8 | 157.8 | 162.8 | 167.8 | 172.8 | 177.8 | 182.8 | 187.8 |

| | | | | | | | | | | | | | | | | | | | | | | |
|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 63 | 80 | 100 | 125 | 160 | 200 | 250 | 315 | 400 | 500 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 2500 | 3150 | 4000 | 5000 | 6300 | 8000 |
| 83.4 | 87.2 | 89.5 | 93.3 | 97.9 | 102.8 | 107.8 | 112.8 | 117.8 | 122.8 | 127.8 | 132.8 | 137.8 | 142.8 | 147.8 | 152.8 | 157.8 | 162.8 | 167.8 | 172.8 | 177.8 | 182.8 | 187.8 |

| | | | | | | | | | | | | | | | | | | | | | | |
|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 63 | 80 | 100 | 125 | 160 | 200 | 250 | 315 | 400 | 500 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 2500 | 3150 | 4000 | 5000 | 6300 | 8000 |
| 83.4 | 87.2 | 89.5 | 93.3 | 97.9 | 102.8 | 107.8 | 112.8 | 117.8 | 122.8 | 127.8 | 132.8 | 137.8 | 142.8 | 147.8 | 152.8 | 157.8 | 162.8 | 167.8 | 172.8 | 177.8 | 182.8 | 187.8 |

| | | | | | | | | | | | | | | | | | | | | | | |
|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 63 | 80 | 100 | 125 | 160 | 200 | 250 | 315 | 400 | 500 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 2500 | 3150 | 4000 | 5000 | 6300 | 8000 |
| 83.4 | 87.2 | 89.5 | 93.3 | 97.9 | 102.8 | 107.8 | 112.8 | 117.8 | 122.8 | 127.8 | 132.8 | 137.8 | 142.8 | 147.8 | 152.8 | 157.8 | 162.8 | 167.8 | 172.8 | 177.8 | 182.8 | 187.8 |

| | | | | | | | | | | | | | | | | | | | | | | |
|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 63 | 80 | 100 | 125 | 160 | 200 | 250 | 315 | 400 | 500 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 2500 | 3150 | 4000 | 5000 | 6300 | 8000 |
| 83.4 | 87.2 | 89.5 | 93.3 | 97.9 | 102.8 | 107.8 | 112.8 | 117.8 | 122.8 | 127.8 | 132.8 | 137.8 | 142.8 | 147.8 | 152.8 | 157.8 | 162.8 | 167.8 | 172.8 | 177.8 | 182.8 | 187.8 |

| | | | | | | | | | | | | | | | | | | | | | | |
|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 63 | 80 | 100 | 125 | 160 | 200 | 250 | 315 | 400 | 500 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 2500 | 3150 | 4000 | 5000 | 6300 | 8000 |
| 83.4 | 87.2 | 89.5 | 93.3 | 97.9 | 102.8 | 107.8 | 112.8 | 117.8 | 122.8 | 127.8 | 132.8 | 137.8 | 142.8 | 147.8 | 152.8 | 157.8 | 162.8 | 167.8 | 172.8 | 177.8 | 182.8 | 187.8 |

| | | | | | | | | | | | | | | | | | | | | | | |
|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 63 | 80 | 100 | 125 | 160 | 200 | 250 | 315 | 400 | 500 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 2500 | 3150 | 4000 | 5000 | 6300 | 8000 |
| 83.4 | 87.2 | 89.5 | 93.3 | 97.9 | 102.8 | 107.8 | 112.8 | 117.8 | 122.8 | 127.8 | 132.8 | 137.8 | 142.8 | 147.8 | 152.8 | 157.8 | 162.8 | 167.8 | 172.8 | 177.8 | 182.8 | 187.8 |

| | | | | | | | | | | | | | | | | | | | | | | |
|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 63 | 80 | 100 | 125 | 160 | 200 | 250 | 315 | 400 | 500 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 2500 | 3150 | 4000 | 5000 | 6300 | 8000 |
| 83.4 | 87.2 | 89.5 | 93.3 | 97.9 | 102.8 | 107.8 | 112.8 | 117.8 | 122.8 | 127.8 | 132.8 | 137.8 | 142.8 | 147.8 | 152.8 | 157.8 | 162.8 | 167.8 | 172.8 | 177.8 | 182.8 | 187.8 |

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|----------|---|--------------|-----------|---|----------|------------|---|--------------|------------|---|-------|----------------|---|-------|------------|---|----------|
| VEHICL | = | ADH223 | TEST DATE | = | 03-17-82 | LOCAT | = | C41 ANECH CH | CONFIG | = | 2 | MODEL | = | AX | FLVEL | = | 0. FPS |
| IAPLHA | = | SB59 | LEGA | = | NO | PWL AREA | = | FULL SPHERE | TAMB F | = | 53.00 | PAMB HG | = | 29.55 | RELHUM | = | 69.7 PCT |
| WIND DIR | = | | DEG | = | | EXT DIST | = | 40.0 FT | EXT CONFIG | = | ARC | MIKE HT | = | | NBFR | = | |
| FNINI | = | | LBS | = | | XNH | = | | RPM | = | | AE8 | = | | 20.4 SQ IN | = | |
| FNRAMB | = | | LBS | = | | XNHR | = | | RPM | = | | AE18 | = | | 0. SQ IN | = | |
| RUNPT | = | 82F-ZER-0205 | TAPE | = | X0205F | TEST PT NO | = | 0205 | NC | = | AE041 | CORR FAN SPEED | = | | | = | |

DATPROC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 8ZF-ZER-0205 X02051

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 67.8 71.6 70.4 74.7 76.2 75.9 79.2 80.7 87.7 93.4 95.0 93.7 88.6 169.5

63 68.6 72.7 71.5 75.5 77.5 78.3 79.0 82.3 89.5 95.8 96.8 94.1 88.6 170.9

80 70.6 73.6 77.6 78.3 78.8 80.6 84.6 92.1 99.1 97.9 94.6 88.4 172.5

100 75.0 75.3 75.7 79.4 80.4 80.7 82.4 85.7 93.9 100.6 98.5 94.4 89.1 173.5

125 80.6 84.0 80.3 82.9 82.6 82.4 83.6 87.9 95.8 102.1 98.4 95.0 88.6 174.5

160 77.2 84.1 83.7 86.5 86.5 84.3 84.8 88.7 96.2 101.9 98.7 93.5 87.4 174.6

200 78.4 79.6 83.1 84.6 84.1 85.6 90.2 96.8 101.7 98.7 91.7 84.4 174.6

250 79.8 82.9 80.5 82.7 84.2 84.5 86.5 90.2 96.7 102.1 96.7 90.2 82.0 174.5

315 78.9 80.9 84.0 84.6 84.1 85.1 90.5 95.8 101.4 94.6 88.0 80.3 173.9

400 77.0 80.7 83.6 85.1 84.6 86.1 90.6 95.6 99.4 93.3 85.9 78.8 172.9

500 75.2 79.0 78.1 82.2 84.1 84.4 85.9 91.2 94.5 97.9 90.9 76.3 172.0

630 73.2 76.4 77.3 80.7 83.2 83.5 85.3 89.3 93.4 95.6 89.1 81.0 170.7

800 70.7 75.4 76.0 79.9 82.4 84.0 84.9 89.5 92.9 94.8 88.1 79.5 170.6

1000 69.0 73.7 74.3 79.1 82.0 82.7 83.5 88.0 91.5 93.3 86.4 77.1 169.8

1250 67.1 72.4 73.8 78.1 81.7 82.1 83.9 87.3 89.9 92.4 84.6 75.6 169.5

1600 63.9 69.5 71.8 75.9 79.6 80.5 81.4 84.9 87.9 90.1 81.2 72.3 168.5

2000 60.3 66.2 68.2 73.3 76.8 78.5 79.6 82.8 86.1 87.0 78.4 67.6 167.8

2500 55.1 62.6 64.4 69.4 73.9 75.2 76.5 79.9 82.8 84.4 74.3 61.9 167.6

3150 48.0 56.5 60.0 64.3 69.4 71.1 72.7 75.0 77.5 78.6 67.1 55.1 166.6

4000 37.7 48.4 51.8 57.5 62.6 63.9 65.2 69.0 70.5 72.0 58.7 41.7 167.3

5000 23.5 35.9 42.2 47.6 53.9 55.8 56.8 59.7 61.3 62.5 46.2 24.8 168.8

6300 0.7 17.9 24.7 31.6 38.4 40.7 41.6 43.8 46.1 44.1 24.5 169.1

8000 6300 0.7 17.9 24.7 31.6 38.4 40.7 41.6 43.8 46.1 44.1 24.5 169.1

10000 171.7 169.5 169.1 167.3 166.6 166.6 166.6 166.6 166.6 166.6 166.6 166.6 166.6

12500 171.7 169.5 169.1 167.3 166.6 166.6 166.6 166.6 166.6 166.6 166.6 166.6 166.6

16000 171.7 169.5 169.1 167.3 166.6 166.6 166.6 166.6 166.6 166.6 166.6 166.6 166.6

20000 171.7 169.5 169.1 167.3 166.6 166.6 166.6 166.6 166.6 166.6 166.6 166.6 166.6

25000 171.7 169.5 169.1 167.3 166.6 166.6 166.6 166.6 166.6 166.6 166.6 166.6 166.6

31500 171.7 169.5 169.1 167.3 166.6 166.6 166.6 166.6 166.6 166.6 166.6 166.6 166.6

40000 171.7 169.5 169.1 167.3 166.6 166.6 166.6 166.6 166.6 166.6 166.6 166.6 166.6

50000 171.7 169.5 169.1 167.3 166.6 166.6 166.6 166.6 166.6 166.6 166.6 166.6 166.6

63000 171.7 169.5 169.1 167.3 166.6 166.6 166.6 166.6 166.6 166.6 166.6 166.6 166.6

80000 171.7 169.5 169.1 167.3 166.6 166.6 166.6 166.6 166.6 166.6 166.6 166.6 166.6

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICLE = ADH723 TEST DATE = 03-17-82
IAPLHA = SB59 IEGA' = NO
WIND DIR = DEG WIND VEL = MPH
EXT DIST = 2400.0 FT
PWL AREA = FULL SPHERE
CONFID = 2
MODEL = AX
FLVEL = 0. FPS
RELHUM = 69.7 PCT
NBFR =FNNI = LBS XNLR = RPM XNHR = RPM V8 = 2365.3 FPS AE8 = 20.4 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2365.3 FPS AE8 = 20.4 SQ IN

ZER-0205 TAPE = X02051 TEST PT NO = 0201 NC = AE041 CORR FAN SPEED = RPM

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

06/18/82 17.398 PAGE 1

IDENTIFICATION - MODEL 82F-400-0206 X0206C
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 85.9 84.2 82.0 84.4 83.1 80.0 82.7 85.8 88.6 96.5 97.4 93.4 94.2 132.5

63 85.8 87.3 89.1 91.0 87.6 86.2 89.8 85.7 93.6 99.3 99.5 93.3 96.3 135.1

80 89.1 93.2 85.8 90.2 87.6 90.0 90.8 90.2 91.5 93.5 93.3 96.6 98.6 134.5

100 89.2 91.8 85.9 89.8 91.1 90.0 90.4 93.3 94.0 93.3 96.5 100.5 102.0 136.1

125 85.3 86.8 86.5 90.0 91.5 91.1 90.7 92.2 92.8 93.6 93.6 101.6 104.3 138.6

160 83.1 81.4 84.5 86.0 87.3 88.5 91.5 95.9 102.0 104.5 108.1 139.2

200 83.9 84.0 83.2 86.0 87.3 88.5 92.3 96.3 96.9 102.8 107.7 110.1 141.4

250 82.9 83.7 83.4 87.3 87.9 88.2 89.6 93.8 96.6 102.4 108.3 111.5 144.6

315 83.5 85.6 83.8 87.1 88.9 89.3 90.5 93.6 98.9 105.0 113.0 112.4 146.3

400 84.8 86.6 84.6 88.4 89.5 88.8 90.7 93.9 100.4 108.5 113.6 114.5 148.0

500 85.9 87.7 85.7 89.3 90.8 90.7 92.1 95.8 102.2 111.3 116.0 114.6 149.4

630 87.3 89.3 87.3 91.1 92.2 92.8 94.0 98.4 104.6 114.7 117.1 114.2 150.7

800 89.7 90.0 88.7 93.0 93.7 93.0 95.9 100.3 107.3 116.8 118.5 113.1 152.0

1000 94.2 94.0 91.8 95.3 95.4 97.4 102.6 109.0 118.1 119.5 112.6 110.5 153.0

1250 97.9 97.8 96.5 98.4 99.0 99.1 101.6 106.1 112.2 119.0 120.0 111.9 154.0

1600 96.8 96.5 94.8 97.3 98.4 98.8 100.4 106.2 111.6 120.5 125.2 153.9

2000 97.2 97.2 96.7 98.2 98.4 98.7 100.3 106.3 111.9 118.9 118.9 110.7 153.5

2500 98.2 98.7 97.2 99.2 99.2 99.2 100.9 106.3 111.9 118.9 118.9 110.7 153.5

3150 96.3 97.1 96.3 98.3 98.3 98.3 100.1 101.0 100.8 101.7 106.4 117.3 152.3

4000 94.8 95.8 95.1 98.6 99.2 99.2 102.1 106.7 111.9 115.1 114.4 107.7 150.7

5000 93.7 94.6 93.3 97.3 98.8 98.8 99.2 102.1 106.7 111.9 115.1 114.4 150.7

6300 91.4 94.2 93.1 96.1 98.2 99.4 102.0 107.4 111.9 114.8 113.4 106.4 150.6

8000 91.1 92.3 91.8 95.7 97.9 99.0 100.4 105.8 111.5 113.4 112.1 103.6 149.8

10000 89.8 92.3 91.6 95.0 97.5 98.5 98.5 100.8 105.7 110.2 112.6 111.0 149.4

12500 88.0 89.7 89.5 93.5 96.5 97.5 99.0 104.0 108.1 110.4 109.0 101.7 148.3

16000 84.9 87.9 87.1 90.9 94.0 95.2 97.8 101.9 106.5 108.2 106.5 98.7 147.6

20000 82.1 85.0 84.4 88.6 91.3 93.1 94.9 99.4 103.5 106.3 104.7 96.0 147.0

25000 78.7 80.8 81.3 84.5 86.6 88.6 90.6 92.1 96.7 100.3 103.2 97.6 146.0

31500 74.1 72.4 73.3 76.3 78.3 79.3 81.0 81.8 83.7 89.1 94.4 100.1 148.5

40000 69.7 67.3 68.4 70.3 73.3 75.3 77.0 78.5 84.1 90.6 95.7 92.2 148.7

50000 64.3 67.3 68.4 70.3 73.3 75.3 77.0 78.5 84.1 90.6 95.7 92.2 148.7

63000 60.1 63.7 66.3 65.1 69.2 70.8 72.3 78.3 86.7 93.3 88.0 75.1 150.8

80000 58.1 61.1 60.4 59.3 62.8 63.3 65.5 71.9 82.8 82.8 92.5 85.3 156.0

DBA 106.6 107.6 106.1 109.2 110.1 110.2 112.0 117.1 122.8 128.8 129.6 122.8 116.9

PWL 119.7 120.7 119.2 122.7 123.6 124.2 125.3 130.3 135.7 141.0 141.6 135.4 130.2

GNASPL 106.3 107.6 106.0 109.2 110.3 110.6 112.4 117.3 122.8 128.6 129.5 124.2 120.3 165.3

NASA SHOCK CELL/CIRCULAR C-D NO2/AX/SC-2/NAS3-22514

VEHICL = ADH717 TEST DATE = 03-16-82 LOCAT = C41 ANECH CH CNF10 = 2 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 77.00 PAMB HG = 29.25 RELHUM = 39.5 PCT
WIND DIR = SB59 DEG WIND/VEL = MPH EXT DIST = 40.0 FT EXT CNF10 = ARC MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2372.8 FPS AE8 = 20.4 SQ IN
FNRAMB = LBS XNLR = RPM V18 = 2372.8 FPS AE18 = 0. SQ IN

RUNPT = 82F-400-0206 TAPE = X0206C TEST PT NO = 0206 NC = AE039 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0206 X0206F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

FREQ

50

63

80

100

125

160

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 200 | 90.0 | 91.6 | 88.0 | 90.4 | 89.4 | 88.2 | 87.7 | 90.2 | 95.4 | 100.6 | 105.7 | 108.6 | 109.8 | 142.4 |
| 250 | 90.0 | 91.6 | 88.0 | 90.4 | 90.7 | 89.5 | 89.1 | 90.9 | 97.4 | 104.6 | 109.3 | 111.1 | 110.2 | 144.7 |
| 315 | 90.0 | 91.6 | 88.0 | 90.4 | 90.7 | 89.5 | 89.1 | 90.9 | 97.4 | 104.6 | 109.3 | 111.1 | 110.2 | 144.7 |
| 400 | 91.2 | 91.9 | 88.7 | 90.5 | 91.2 | 89.1 | 89.8 | 91.5 | 100.7 | 109.3 | 114.0 | 114.5 | 111.6 | 148.3 |
| 500 | 91.7 | 92.5 | 89.2 | 91.6 | 92.7 | 93.2 | 93.1 | 96.3 | 105.6 | 114.9 | 117.0 | 114.5 | 112.7 | 151.0 |
| 630 | 93.4 | 94.0 | 90.6 | 92.7 | 94.2 | 93.2 | 93.1 | 96.3 | 105.6 | 114.9 | 117.0 | 114.5 | 112.7 | 151.0 |
| 800 | 95.0 | 95.8 | 92.4 | 94.6 | 95.9 | 94.5 | 95.0 | 98.1 | 107.7 | 116.5 | 118.5 | 115.2 | 113.6 | 152.5 |
| 1000 | 97.4 | 96.4 | 93.8 | 96.6 | 97.0 | 96.1 | 96.6 | 100.5 | 109.7 | 117.6 | 119.9 | 114.3 | 116.0 | 153.6 |
| 1250 | 99.3 | 98.0 | 100.7 | 98.8 | 98.0 | 99.8 | 98.0 | 101.9 | 110.7 | 117.6 | 120.1 | 114.2 | 115.8 | 153.8 |
| 1600 | 100.6 | 103.4 | 100.3 | 101.7 | 100.6 | 99.8 | 100.0 | 103.5 | 111.7 | 118.3 | 120.0 | 115.3 | 116.4 | 154.3 |
| 2000 | 102.5 | 101.6 | 99.0 | 100.6 | 101.1 | 100.4 | 101.4 | 104.8 | 111.7 | 118.6 | 119.3 | 114.7 | 116.2 | 154.1 |
| 2500 | 102.8 | 103.2 | 101.3 | 103.0 | 100.8 | 101.1 | 105.2 | 113.6 | 117.8 | 118.3 | 114.7 | 115.8 | 116.2 | 153.8 |
| 3150 | 104.0 | 104.1 | 101.8 | 103.9 | 104.2 | 102.8 | 102.3 | 105.8 | 113.6 | 118.2 | 117.0 | 114.6 | 115.3 | 153.6 |
| 4000 | 103.8 | 103.7 | 101.9 | 104.5 | 103.4 | 102.7 | 103.5 | 107.8 | 112.9 | 115.7 | 115.6 | 112.3 | 113.0 | 152.4 |
| 5000 | 102.3 | 102.5 | 100.8 | 103.2 | 102.8 | 102.2 | 103.6 | 106.8 | 113.5 | 114.6 | 111.0 | 112.7 | 112.0 | 152.0 |
| 6300 | 101.2 | 101.3 | 99.2 | 102.2 | 102.8 | 102.4 | 103.5 | 107.5 | 112.7 | 114.2 | 113.5 | 108.8 | 111.9 | 151.4 |
| 8000 | 101.5 | 103.0 | 100.5 | 101.9 | 102.5 | 102.0 | 101.9 | 105.9 | 111.5 | 113.5 | 112.4 | 108.4 | 110.3 | 150.9 |
| 10000 | 101.0 | 101.0 | 99.0 | 101.3 | 102.1 | 101.5 | 102.2 | 105.8 | 109.7 | 111.6 | 110.8 | 106.8 | 108.8 | 150.0 |
| 12500 | 99.4 | 100.7 | 98.5 | 100.4 | 101.1 | 100.5 | 100.5 | 104.1 | 108.6 | 109.9 | 108.6 | 104.1 | 106.5 | 149.2 |
| 16000 | 97.1 | 97.6 | 95.9 | 98.4 | 98.6 | 98.2 | 99.2 | 102.0 | 105.9 | 108.2 | 106.9 | 101.3 | 103.1 | 148.4 |
| 20000 | 93.6 | 95.4 | 93.2 | 95.4 | 95.9 | 96.1 | 96.4 | 99.4 | 103.3 | 105.8 | 102.5 | 100.0 | 101.0 | 147.4 |
| 25000 | 90.3 | 91.9 | 89.6 | 92.2 | 93.2 | 93.6 | 93.5 | 96.7 | 100.9 | 104.5 | 101.1 | 96.4 | 96.0 | 147.6 |
| 31500 | 86.1 | 87.6 | 85.9 | 87.6 | 88.5 | 89.2 | 89.4 | 93.1 | 98.9 | 104.2 | 99.7 | 93.2 | 92.5 | 149.1 |
| 40000 | 80.6 | 82.6 | 80.7 | 83.2 | 85.5 | 84.8 | 85.1 | 89.1 | 95.6 | 100.2 | 96.9 | 88.5 | 86.9 | 149.3 |
| 50000 | 75.8 | 77.2 | 76.7 | 78.2 | 79.9 | 80.0 | 79.9 | 84.1 | 92.6 | 98.7 | 93.7 | 83.9 | 80.6 | 151.2 |
| 63000 | 69.5 | 71.2 | 70.9 | 71.2 | 73.8 | 73.8 | 73.7 | 78.3 | 90.2 | 99.4 | 92.5 | 78.5 | 72.1 | 156.2 |
| 80000 | 63.8 | 66.2 | 67.3 | 64.5 | 66.8 | 66.3 | 66.9 | 71.9 | 80.4 | 89.5 | 82.7 | 68.6 | 62.2 | 153.3 |
| GASPL | 112.9 | 113.4 | 111.0 | 113.1 | 112.6 | 113.0 | 116.7 | 123.2 | 128.1 | 129.2 | 125.5 | 126.0 | 165.9 | |
| PWL | 125.7 | 127.1 | 124.6 | 125.9 | 126.0 | 124.8 | 125.3 | 129.2 | 135.7 | 140.4 | 140.6 | 137.1 | 138.0 | |
| DBA | 185.8 | 187.9 | 188.6 | 187.1 | 189.4 | 189.1 | 189.4 | 194.1 | 203.7 | 212.7 | 206.0 | 192.5 | 187.1 | |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH717 TEST DATE = 03-16-82
IAPLHA = SB59 IEQA = NG
WIND DIR = DEG WIND VEL = MPH
LOCAT = C41 ANECH CH CNFIG = 2
PWL AREA = FULL SPHERE EXT DIST = 40.0 FT
TAMB F = 77.00 MIKE HT = 29.25 RELHUM = 39.5 PCT
FLTVEL = 400. FPS NBFR =

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TEST PT NO = 020
NC = AE039
CORR FAN SPEED =

RPM XNHR =
RPM XNH =
FPS AE8 = 2372.8
FPS AE18 = 20.4
SQ IN

RPT

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0206 X02061

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 70.1 72.4 70.3 72.8 73.9 71.9 72.4 73.8 82.2 89.8 93.0 90.9 85.0 166.6

63 70.6 72.9 70.7 73.8 75.3 73.8 74.0 76.3 84.3 92.9 94.0 91.1 84.7 167.8

80 72.2 74.4 72.1 74.9 76.8 76.0 75.7 78.5 87.1 95.3 97.8 91.1 85.9 169.4

100 73.7 76.1 73.8 76.8 78.5 77.2 77.5 80.3 89.1 96.9 97.3 91.7 86.7 170.9

125 76.0 76.7 75.1 78.7 79.5 78.8 79.1 82.5 91.1 97.8 98.5 90.6 88.9 172.0

160 77.8 78.5 76.5 79.9 83.0 81.3 80.4 83.9 91.9 97.6 98.5 90.3 88.3 172.2

200 78.8 83.3 81.3 83.5 82.8 82.2 82.2 85.3 92.7 98.2 98.2 91.1 88.4 172.7

250 80.4 81.2 79.8 82.1 83.1 82.5 83.5 86.3 92.5 98.2 97.2 90.0 87.5 172.5

315 80.3 82.4 80.7 82.6 84.7 82.7 82.9 86.5 94.1 97.0 95.7 89.5 86.4 172.2

400 81.0 82.9 81.9 84.8 85.7 84.4 83.8 86.8 93.7 97.0 93.9 87.3 84.1 171.9

500 80.3 82.2 81.7 85.2 84.5 84.0 84.6 88.5 92.7 94.2 92.1 85.8 81.6 170.8

600 76.7 79.0 78.3 82.3 83.5 83.3 84.1 87.7 91.9 91.9 89.0 80.9 78.3 169.8

1000 76.6 80.4 79.4 81.8 83.0 82.7 82.4 85.9 90.4 90.9 87.5 79.8 75.6 169.2

1250 75.6 78.0 77.8 81.1 82.5 82.1 82.6 85.6 88.4 88.7 85.3 77.5 72.6 168.4

1600 73.1 77.1 76.8 79.9 81.2 80.8 80.6 83.5 86.9 86.3 82.3 73.4 67.9 167.6

2000 69.8 73.5 73.9 77.5 78.5 78.3 79.2 81.2 83.8 84.1 79.7 69.0 61.5 166.8

2500 64.5 70.0 70.2 73.9 75.3 75.7 75.7 77.9 80.3 80.4 73.4 64.9 54.5 165.8

3150 57.8 64.1 64.7 69.2 71.2 72.0 71.5 73.7 76.1 76.7 68.7 56.2 41.1 166.0

4000 47.4 54.4 57.2 61.3 64.5 64.6 64.4 66.8 70.2 71.7 61.0 44.2 23.1 167.5

5000 32.2 42.6 45.8 51.5 55.6 55.3 55.1 57.4 60.7 60.1 48.5 25.7 167.7

6300 9.5 22.9 29.7 35.6 39.8 39.8 40.7 45.6 45.6 44.4 27.5 169.6

8000 2.6 9.5 15.6 15.6 16.8 16.8 16.8 16.5 21.9 20.2 174.5

10000 171.6

12500

16000

20000

25000

31500

40000

50000

63000

80000

DBA 89.6 91.9 90.8 93.7 94.6 93.8 94.1 97.3 103.2 107.4 107.1 100.9 97.2 184.2

PWL 95.3 96.0 97.4 100.6 101.9 101.4 101.6 104.4 109.4 112.3 110.3 103.2 99.3

PMLT 95.3 96.6 98.0 101.2 101.9 101.9 102.1 104.9 109.4 112.3 110.3 103.2 99.3

85.5 88.2 87.5 90.7 91.6 91.1 91.5 94.6 99.1 100.8 98.5 91.4 88.0

MODEL AREA = 131.5 SQ CM (20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH717 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CNF10 = 2 MODEL = AX FLTVEL = 400. FPS

IAPLHA = SB59 IEQA = NO EXT DIST = 2400.0 FT PML AREA = FULL SPHERE TAMB F = 77.00 PAMB HG = 29.25 RELHUM = 39.5 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNF10 = SL MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNHR = RPM V6 = 2372.8 FPS AEB = 20.4 SQ IN = 0. SQ IN

FNIRMB = LBS XNL = RPM XNHR = RPM V6 = 2372.8 FPS AEB = 20.4 SQ IN = 0. SQ IN

RUNPT = 82F-400-0206 TAPE = X02061 TEST PT NO = 0206 NC = AE039 CORR FAN SPEED = RPM

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0207 X0207C
BACKGROUND 000000000000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 84.2 83.5 83.7 82.0 83.6 80.5 84.6 86.5 89.5 95.3 95.2 95.4 94.5 131.9

63 87.2 85.8 91.0 90.1 91.4 89.0 91.7 89.1 93.5 98.6 98.7 98.4 97.8 135.9

80 89.5 93.8 88.6 90.6 91.0 91.6 91.5 92.4 94.6 93.2 97.3 98.0 99.4 135.6

100 88.3 93.6 88.9 93.2 94.0 92.6 93.0 96.2 96.6 96.7 98.3 102.3 103.2 138.2

125 85.6 88.6 90.2 92.7 93.8 93.2 92.5 93.7 95.9 97.5 104.6 106.0 107.7 140.9

160 84.8 84.1 87.6 88.6 89.0 89.6 91.0 91.6 95.1 99.7 104.8 107.2 110.4 141.9

200 86.8 87.3 86.6 90.4 92.0 92.1 92.2 95.9 100.3 101.9 107.3 110.7 112.6 144.7

250 87.0 90.6 89.1 92.1 91.7 92.6 94.2 97.9 101.1 107.9 112.5 114.7 114.4 148.3

315 87.6 90.1 88.1 91.4 93.8 94.1 94.3 97.9 103.9 110.7 115.1 116.3 116.7 150.4

400 89.3 91.6 89.6 92.7 93.8 93.1 96.5 98.4 105.9 113.7 117.8 118.0 115.9 152.3

500 89.9 92.5 89.7 93.0 94.9 95.5 96.4 100.8 107.5 115.8 119.4 118.1 115.5 153.4

630 92.0 94.3 91.9 95.1 96.2 96.9 98.2 102.6 109.6 118.9 120.6 118.5 115.6 154.8

800 94.9 97.2 94.8 98.3 99.8 99.9 100.0 104.3 108.4 115.5 121.6 116.9 113.7 156.6

1000 99.2 104.2 101.8 104.1 102.3 102.9 102.3 107.3 115.0 122.1 122.5 117.9 114.9 157.1

1250 102.4 103.7 98.8 101.0 100.4 99.7 101.1 105.5 114.0 122.6 122.0 118.9 115.8 157.1

1600 102.4 103.7 98.8 101.0 100.4 99.7 101.1 105.5 114.0 122.6 122.0 118.9 115.8 157.1

2000 101.9 102.3 99.7 100.8 102.2 102.1 101.8 103.1 108.4 115.5 121.6 116.9 113.7 156.6

2500 101.1 101.2 100.0 102.2 102.6 102.4 103.9 109.0 115.4 121.9 119.4 114.5 110.2 155.9

3150 100.5 101.8 99.6 102.4 102.7 103.9 104.6 109.1 115.9 120.8 118.0 112.9 109.2 155.1

4000 99.0 100.0 98.5 101.3 102.4 102.5 104.6 109.2 113.9 117.8 115.6 110.7 106.4 153.0

5000 97.5 98.8 97.8 100.3 102.0 102.5 104.6 109.2 113.9 117.8 115.6 110.7 106.4 153.0

6300 95.9 98.2 97.1 99.8 102.0 103.0 104.3 109.7 113.7 117.3 114.9 109.4 105.4 152.8

8000 94.9 97.1 95.6 99.0 101.2 102.0 103.7 108.1 112.8 115.4 113.4 107.3 104.0 151.7

10000 93.5 96.6 95.6 99.3 101.0 101.5 103.3 107.5 111.2 115.3 112.7 106.2 102.2 151.6

12500 91.5 94.0 93.8 97.3 100.0 100.0 101.6 105.5 108.9 113.4 110.3 104.0 100.5 150.4

16000 88.6 91.6 90.8 95.1 97.7 98.4 100.2 103.8 108.0 110.7 108.5 102.2 97.4 149.7

20000 85.7 89.0 88.1 92.1 95.3 96.1 97.2 101.1 104.8 109.5 106.4 99.0 93.6 149.4

25000 82.1 85.3 85.6 88.6 92.7 93.3 94.7 98.6 102.3 105.9 100.8 96.2 88.9 148.3

31500 78.4 81.7 81.7 84.8 88.3 89.2 90.9 95.5 99.2 104.6 98.9 93.5 84.8 149.2

40000 73.7 77.0 77.4 80.1 84.6 85.5 87.3 91.4 95.4 102.4 96.4 89.5 80.9 150.5

50000 68.7 72.5 71.9 75.1 79.5 80.5 81.7 86.4 92.6 97.9 93.0 83.7 74.2 150.7

63000 62.5 67.9 66.7 69.5 73.8 75.0 76.2 81.2 88.4 93.5 88.6 79.3 69.5 151.6

80000 57.5 62.7 62.5 65.7 69.8 68.6 69.8 77.1 82.5 89.2 83.0 74.2 64.5 153.5

DBA 110.9 112.2 110.0 112.5 113.4 113.4 113.4 115.0 119.8 126.0 132.0 131.2 127.3 124.4

PWL 125.0 127.1 124.0 126.6 126.4 126.7 126.3 133.6 138.7 144.1 143.4 139.0 136.0

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH724 TEST DATE = 03-17-82 LOCAT = C41 ANECH CH CNFIO = 2 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 53.00 PAMB HG = 29.55 RELHUM = 69.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIO = ARC MIKE HT = NBFR

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2377.8 FPS AEB = 20.4 SQ IN
FNRAMB = LBS XNLR = RPM V18 = FPS AE18 = 0. SQ IN
RUNPT = 82F-ZER-0207 TAPE = X0207C TEST PT NO = 0207 NC = AE041 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0207 X0207F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160

PWL

50 64.2 83.5 83.7 82.0 83.6 80.5 84.6 86.5 89.5 95.3 95.2 95.4 94.5 131.9

80 69.5 93.8 88.6 90.6 91.0 91.6 91.5 92.4 94.6 93.2 97.3 98.0 99.4 135.6

100 88.3 93.6 88.9 93.2 94.0 92.6 93.0 96.2 96.6 96.7 98.3 102.3 103.2 138.2

125 85.6 88.6 90.2 92.7 93.8 93.2 92.5 93.7 95.9 97.5 104.6 106.0 107.7 140.9

150 84.8 84.1 87.6 88.6 89.0 89.6 91.0 92.4 95.1 99.7 104.8 107.2 110.4 141.9

200 86.8 87.3 86.6 90.4 92.0 92.1 92.2 95.9 100.3 101.9 107.3 110.7 112.6 144.7

250 87.0 89.1 92.1 91.7 92.6 94.2 97.9 101.1 107.9 112.5 114.7 114.4 148.3

315 87.6 90.1 88.1 91.4 93.8 94.1 94.3 97.9 103.9 110.7 115.1 116.3 150.4

400 89.3 91.6 89.6 92.7 93.8 93.1 96.5 98.4 105.9 113.7 117.8 118.0 152.3

500 89.9 92.5 89.7 93.0 94.9 95.5 96.4 100.8 107.5 115.8 119.4 118.1 153.4

630 92.0 94.3 91.9 95.1 96.2 96.9 98.2 102.6 109.6 118.9 120.6 118.5 154.8

800 96.4 95.5 94.2 97.3 97.9 98.5 99.9 104.0 112.5 120.8 121.7 118.4 156.1

1000 102.4 103.7 98.8 101.0 100.4 99.7 101.1 105.5 114.0 122.6 122.0 118.9 157.1

1250 99.2 104.2 101.8 104.1 104.1 102.3 102.9 107.3 115.0 122.1 122.5 117.9 157.1

1500 100.0 99.5 98.3 100.8 102.2 101.8 103.1 108.4 115.5 121.6 121.7 116.9 156.6

1600 100.0 99.5 98.3 100.8 102.2 101.8 103.1 108.4 115.5 121.6 121.7 116.9 156.6

1800 101.9 102.3 99.7 100.8 102.2 102.1 104.3 108.3 115.7 122.0 120.5 115.3 156.3

2000 101.1 101.2 100.0 102.2 102.6 102.4 103.9 109.0 115.4 121.9 119.4 114.5 155.9

2500 101.1 101.2 100.0 102.2 102.6 102.4 103.9 109.0 115.4 121.9 119.4 114.5 155.9

3150 100.5 101.8 99.6 102.4 102.7 103.3 104.6 109.1 115.9 120.8 118.0 112.9 155.1

3500 99.0 98.5 101.3 102.4 102.9 105.0 109.2 113.9 117.8 115.6 110.7 106.4 153.0

4000 97.5 98.8 100.3 102.0 102.5 104.6 109.2 113.9 117.8 115.6 110.7 106.4 153.0

4500 95.9 98.2 97.1 99.8 102.0 103.0 104.3 109.7 113.7 117.3 114.9 109.4 152.8

5000 94.9 97.1 95.6 99.0 101.2 102.0 103.7 108.1 112.8 115.4 113.4 107.3 151.7

5500 93.5 96.6 99.3 101.0 101.5 103.3 107.5 111.2 115.3 112.7 110.3 104.0 150.4

6000 91.5 94.0 93.8 97.3 100.0 101.6 105.5 108.9 113.4 110.3 104.0 100.5 150.4

6500 88.6 92.1 85.3 88.6 92.7 93.3 94.7 98.8 102.3 105.9 100.8 96.2 148.3

7000 85.7 89.0 88.1 92.1 95.3 96.1 97.2 101.1 104.8 109.5 106.4 99.0 149.4

7500 82.5 86.7 85.5 89.2 90.9 95.5 96.2 100.6 104.6 98.9 93.0 83.7 150.5

8000 78.4 81.7 84.8 86.3 89.2 90.9 95.5 99.2 104.6 98.9 84.8 149.2

8500 73.7 77.0 77.4 80.1 84.6 85.5 87.3 91.4 95.9 102.4 96.4 89.5 150.5

9000 68.7 72.5 71.9 75.1 79.5 80.5 81.7 86.4 92.6 97.9 93.0 83.7 151.6

9500 62.5 66.7 69.5 73.8 75.0 76.2 81.2 86.4 93.5 88.6 79.3 69.5 151.6

10000 57.5 62.7 62.5 65.9 67.8 68.6 77.1 82.5 89.2 83.0 74.2 64.5 153.5

10500 57.5 62.7 62.5 65.9 67.8 68.6 77.1 82.5 89.2 83.0 74.2 64.5 153.5

11000 57.5 62.7 62.5 65.9 67.8 68.6 77.1 82.5 89.2 83.0 74.2 64.5 153.5

11500 57.5 62.7 62.5 65.9 67.8 68.6 77.1 82.5 89.2 83.0 74.2 64.5 153.5

12000 57.5 62.7 62.5 65.9 67.8 68.6 77.1 82.5 89.2 83.0 74.2 64.5 153.5

12500 57.5 62.7 62.5 65.9 67.8 68.6 77.1 82.5 89.2 83.0 74.2 64.5 153.5

13000 57.5 62.7 62.5 65.9 67.8 68.6 77.1 82.5 89.2 83.0 74.2 64.5 153.5

13500 57.5 62.7 62.5 65.9 67.8 68.6 77.1 82.5 89.2 83.0 74.2 64.5 153.5

14000 57.5 62.7 62.5 65.9 67.8 68.6 77.1 82.5 89.2 83.0 74.2 64.5 153.5

14500 57.5 62.7 62.5 65.9 67.8 68.6 77.1 82.5 89.2 83.0 74.2 64.5 153.5

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

GASPL 110.6 112.1 110.0 112.6 113.7 113.8 115.3 119.9 125.8 131.9 131.5 128.4 126.2 167.8

PWL 123.4 124.8 122.9 126.6 126.4 126.7 128.3 133.1 138.7 144.1 142.9 139.0 136.0

PWL 125.0 127.1 124.0 126.6 126.4 126.7 128.3 133.1 138.7 144.1 142.9 139.0 136.0

DBA 179.3 184.3 183.9 185.2 189.9 190.8 192.0 198.5 204.3 210.6 204.7 195.8 186.2

FNL 123.4 124.8 122.9 126.6 126.4 126.7 128.3 133.1 138.7 144.1 142.9 139.0 136.0

FNL 125.0 127.1 124.0 126.6 126.4 126.7 128.3 133.1 138.7 144.1 142.9 139.0 136.0

DBA 179.3 184.3 183.9 185.2 189.9 190.8 192.0 198.5 204.3 210.6 204.7 195.8 186.2

FNL 123.4 124.8 122.9 126.6 126.4 126.7 128.3 133.1 138.7 144.1 142.9 139.0 136.0

FNL 125.0 127.1 124.0 126.6 126.4 126.7 128.3 133.1 138.7 144.1 142.9 139.0 136.0

VEHICL = ADH724 TEST DATE = 03-17-82
 IAPLHA = SB59 LEGA' = NO
 WIND DIR = DEG WIND VEL = MPH
 LOCAL = C41 ANECH CH CONFIG = 2
 TAMB F = 53.00
 MODEL = AX
 PAMB HG = 29.55
 RELHUM = 69.7 PCT
 FLTVL = 0. FPS
 NBFR =

FNINI = LBS XNLR = RPM XNHR = RPM V6 = 2377.8 FPS AEB AE18 = 20.4 SQ IN
 FNRAMB = LBS XNLR = RPM XNHR = RPM V6 = 2377.8 FPS AEB AE18 = 20.4 SQ IN
 CORR FAN SPEED = RPM

ORIGINAL PAGE 12
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0207 X02071

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREQ 68.3 72.1 71.2 74.9 76.4 75.9 79.2 80.7 87.4 94.2 96.8 94.7 89.3 170.6

63 68.8 72.9 71.3 75.3 77.5 78.3 79.0 83.0 89.0 96.3 98.3 94.8 88.9 171.7

80 70.9 74.7 73.3 77.3 78.8 79.6 80.8 84.8 91.1 99.3 99.4 95.1 88.9 173.2

100 75.2 79.4 80.4 81.2 82.4 86.2 87.6 93.3 102.8 100.6 95.2 88.6 174.5

160 77.7 84.3 83.0 86.0 86.5 84.8 85.3 89.2 96.2 102.2 100.9 94.0 87.4 175.5

200 78.2 79.4 79.3 82.6 84.4 84.1 85.3 90.2 96.6 101.5 100.0 92.7 85.7 174.9

315 79.8 81.9 80.5 82.4 84.2 86.3 89.9 96.3 101.6 98.4 90.7 83.0 174.6

400 77.5 80.7 80.4 83.3 84.1 84.9 86.1 90.1 96.1 99.6 95.0 87.1 78.8 173.5

500 75.5 78.5 78.3 82.0 83.6 84.2 86.2 91.2 95.0 98.4 93.6 85.7 76.8 172.9

630 73.5 76.9 77.3 80.7 82.9 83.5 85.5 89.6 93.4 95.9 91.6 83.5 73.9 171.4

800 71.4 75.9 76.3 79.9 82.7 83.8 84.9 89.8 92.9 95.0 90.4 81.5 71.7 171.2

1000 70.0 74.5 74.5 78.9 81.7 82.7 84.2 88.0 91.7 92.8 88.4 78.8 69.2 170.0

1250 68.1 73.6 74.3 79.1 81.4 82.1 83.7 87.3 89.9 92.4 87.3 76.8 65.9 170.0

1600 65.2 70.5 72.1 76.7 80.1 80.3 81.6 84.9 87.2 89.8 84.0 73.3 61.9 168.7

2000 61.3 67.5 68.7 74.3 77.6 78.5 80.1 83.0 85.9 86.5 81.2 69.8 55.8 168.1

2500 56.6 63.6 65.1 70.6 74.7 75.7 76.5 79.6 81.8 84.1 77.3 63.9 47.1 167.7

3150 49.7 57.5 60.7 65.6 70.7 71.6 72.7 75.7 77.5 78.1 68.4 56.1 34.0 166.7

4000 39.7 49.1 53.0 58.5 63.3 64.6 65.9 69.2 70.5 72.0 60.2 44.5 15.4 167.6

5000 25.2 36.9 42.5 48.4 54.6 56.0 57.3 59.7 61.0 62.3 48.0 26.8

6300 2.5 18.2 25.0 32.6 39.4 41.2 41.6 43.8 45.6 43.6 26.8

8000 7.8 15.6 18.0 18.0 19.4 20.1 14.4

10000 169.9

12500 169.0

16000 169.9

20000 169.9

25000 169.9

31500 169.9

40000 169.9

50000 169.9

63000 169.9

80000 169.9

GASPL 88.0 91.2 90.1 93.5 94.9 95.1 96.5 100.6 106.1 111.3 109.4 103.7 97.4 165.9

PNL 91.7 95.4 95.2 99.1 101.5 103.4 107.1 111.7 115.6 112.1 104.6 96.7

DBA 81.0 84.6 84.6 88.5 88.5 90.8 91.4 92.9 97.0 100.8 104.0 99.9 91.9 83.8

MODEL AREA = 131.5 SQ CM (20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

NASA SHOCK CELL/CIRCULAR C-D NO2/AX/SC-2/NA53-22514

VEHICL = ADH724 TEST DATE = 03-17-82 LOCAL = C41 ANECH CH CNF10 = 2 MODEL = AX FLTVEL = 0. FPS

IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 53.00 PAMB HG = 29.55 RELHUM = 69.7 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNF10 = SL MIKE HT = NBR

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2377.8 FPS AE8 = 20.4 SQ IN

FNRAMB = LBS XNLR RPM XNHR = RPM V8 = 2377.8 FPS AE8 = 20.4 SQ IN

TEST PT NO = 020 NC = AE041 CORR FAN SPEED = RPM

RUNPT = ZER-0207 TAPE = X02071

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OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0208
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160

PWL

85.6 84.2 80.7 84.1 81.4 78.8 82.7 86.1 88.6 100.5 96.4 94.7 95.2 134.0

63 66.8 67.6 89.4 91.0 89.0 85.6 89.8 91.4 100.8 99.2 94.6 96.3 135.8

80 88.3 93.0 85.8 90.2 90.0 90.8 90.2 91.5 93.2 97.8 95.2 96.8 135.2

100 87.7 92.3 85.9 90.0 90.9 90.2 90.6 93.8 94.0 97.9 95.7 102.0 136.5

125 85.8 87.1 86.5 90.6 91.5 91.1 90.7 91.9 93.1 98.4 101.3 104.5 139.1

150 84.2 86.3 86.6 85.9 86.8 89.3 91.0 94.6 100.6 108.9 113.8 114.8 148.3

175 84.4 84.2 81.4 86.3 86.6 85.9 86.8 89.3 91.0 94.6 100.6 108.9 148.3

200 84.4 84.2 81.4 86.3 86.6 85.9 86.8 89.3 91.0 94.6 100.6 108.9 148.3

225 84.4 84.2 81.4 86.3 86.6 85.9 86.8 89.3 91.0 94.6 100.6 108.9 148.3

250 84.4 84.2 81.4 86.3 86.6 85.9 86.8 89.3 91.0 94.6 100.6 108.9 148.3

275 84.4 84.2 81.4 86.3 86.6 85.9 86.8 89.3 91.0 94.6 100.6 108.9 148.3

300 84.4 84.2 81.4 86.3 86.6 85.9 86.8 89.3 91.0 94.6 100.6 108.9 148.3

325 84.4 84.2 81.4 86.3 86.6 85.9 86.8 89.3 91.0 94.6 100.6 108.9 148.3

350 84.4 84.2 81.4 86.3 86.6 85.9 86.8 89.3 91.0 94.6 100.6 108.9 148.3

375 84.4 84.2 81.4 86.3 86.6 85.9 86.8 89.3 91.0 94.6 100.6 108.9 148.3

400 84.4 84.2 81.4 86.3 86.6 85.9 86.8 89.3 91.0 94.6 100.6 108.9 148.3

425 84.4 84.2 81.4 86.3 86.6 85.9 86.8 89.3 91.0 94.6 100.6 108.9 148.3

450 84.4 84.2 81.4 86.3 86.6 85.9 86.8 89.3 91.0 94.6 100.6 108.9 148.3

475 84.4 84.2 81.4 86.3 86.6 85.9 86.8 89.3 91.0 94.6 100.6 108.9 148.3

500 84.4 84.2 81.4 86.3 86.6 85.9 86.8 89.3 91.0 94.6 100.6 108.9 148.3

525 84.4 84.2 81.4 86.3 86.6 85.9 86.8 89.3 91.0 94.6 100.6 108.9 148.3

550 84.4 84.2 81.4 86.3 86.6 85.9 86.8 89.3 91.0 94.6 100.6 108.9 148.3

575 84.4 84.2 81.4 86.3 86.6 85.9 86.8 89.3 91.0 94.6 100.6 108.9 148.3

600 84.4 84.2 81.4 86.3 86.6 85.9 86.8 89.3 91.0 94.6 100.6 108.9 148.3

625 84.4 84.2 81.4 86.3 86.6 85.9 86.8 89.3 91.0 94.6 100.6 108.9 148.3

650 84.4 84.2 81.4 86.3 86.6 85.9 86.8 89.3 91.0 94.6 100.6 108.9 148.3

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OF POOR QUALITY

VEHICLE = ADH716 TEST DATE = 03-16-82
IAPLHA = SB59 IEGA = NO
WIND DIR = DEG WIND VEL = MPH
FNNINI = LBS XNL RPM XNHR = RPM V8 = 2394.5 FPS AE8 = 20.4 SO IN
FNRAMB = LBS XNL RPM XNHR = RPM V8 = 2394.5 FPS AE8 = 20.4 SO IN
RUNPT = 82F-400-0208 TAPE = X0208C TEST PT NO = 0208 NC = AE039 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0208 X0208F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

FREQ

50

63

80

100

125

160

CCT

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 200 | 90.1 | 92.0 | 88.4 | 90.3 | 89.3 | 88.7 | 88.0 | 90.5 | 95.9 | 102.3 | 106.2 | 108.8 | 110.6 | 143.0 |
| 250 | 90.1 | 92.0 | 88.4 | 90.3 | 89.3 | 88.8 | 88.8 | 90.6 | 97.5 | 105.0 | 109.4 | 111.2 | 110.6 | 144.9 |
| 315 | 90.1 | 92.0 | 88.4 | 90.3 | 89.3 | 88.8 | 88.8 | 90.6 | 97.5 | 105.0 | 109.4 | 111.2 | 110.6 | 144.9 |
| 400 | 91.5 | 92.1 | 88.7 | 91.0 | 91.4 | 89.6 | 89.9 | 92.1 | 101.2 | 110.1 | 114.0 | 114.5 | 112.2 | 148.5 |
| 500 | 92.0 | 93.0 | 89.3 | 91.8 | 93.2 | 91.8 | 91.1 | 95.1 | 103.2 | 112.9 | 115.9 | 114.9 | 111.9 | 150.0 |
| 630 | 93.6 | 94.1 | 90.7 | 93.2 | 94.4 | 93.0 | 93.3 | 96.5 | 106.1 | 115.4 | 117.7 | 115.0 | 113.4 | 151.7 |
| 800 | 95.1 | 96.0 | 92.7 | 94.8 | 96.2 | 95.0 | 95.0 | 98.4 | 108.7 | 117.5 | 119.5 | 115.6 | 114.6 | 153.4 |
| 1000 | 96.0 | 96.3 | 94.5 | 96.6 | 97.6 | 96.6 | 96.8 | 101.0 | 109.9 | 118.7 | 119.8 | 115.6 | 113.9 | 153.9 |
| 1250 | 99.6 | 95.5 | 95.9 | 96.7 | 101.0 | 98.8 | 98.3 | 101.9 | 111.2 | 118.3 | 120.3 | 115.2 | 116.0 | 154.3 |
| 1600 | 100.2 | 103.7 | 100.8 | 101.9 | 101.4 | 100.1 | 100.2 | 103.5 | 112.3 | 119.5 | 120.1 | 115.1 | 115.4 | 154.7 |
| 2000 | 102.6 | 102.6 | 102.3 | 99.8 | 101.4 | 100.4 | 100.3 | 101.4 | 104.9 | 112.1 | 118.8 | 114.5 | 116.1 | 154.5 |
| 2500 | 102.3 | 103.0 | 100.2 | 101.0 | 102.2 | 100.5 | 101.1 | 105.1 | 113.5 | 119.1 | 118.3 | 114.5 | 116.1 | 154.3 |
| 3150 | 102.6 | 103.9 | 101.6 | 103.3 | 103.2 | 102.0 | 102.5 | 106.5 | 113.6 | 118.9 | 117.2 | 113.9 | 115.4 | 154.0 |
| 4000 | 102.1 | 103.0 | 100.9 | 102.7 | 102.5 | 102.4 | 103.4 | 108.0 | 113.0 | 116.8 | 115.9 | 112.3 | 113.6 | 152.8 |
| 5000 | 100.7 | 101.4 | 99.7 | 102.4 | 102.5 | 101.9 | 103.0 | 107.0 | 113.1 | 115.9 | 115.0 | 111.4 | 113.1 | 152.2 |
| 6300 | 99.6 | 100.7 | 98.8 | 101.1 | 102.4 | 102.6 | 102.8 | 107.2 | 112.4 | 114.8 | 113.5 | 108.6 | 111.4 | 151.3 |
| 8000 | 101.4 | 103.1 | 100.1 | 101.7 | 102.0 | 101.8 | 101.7 | 105.9 | 111.2 | 114.2 | 107.6 | 110.3 | 110.9 | 150.9 |
| 10000 | 101.1 | 101.4 | 99.0 | 100.6 | 102.2 | 101.2 | 102.1 | 105.9 | 109.3 | 112.1 | 110.0 | 106.4 | 108.3 | 149.9 |
| 12500 | 98.6 | 98.6 | 100.3 | 98.6 | 101.0 | 99.4 | 100.0 | 103.2 | 108.1 | 109.8 | 107.9 | 103.7 | 105.8 | 148.8 |
| 16000 | 96.6 | 97.0 | 95.8 | 97.5 | 98.0 | 97.4 | 98.4 | 101.6 | 105.3 | 108.4 | 104.6 | 100.6 | 102.2 | 147.8 |
| 20000 | 93.3 | 93.9 | 92.2 | 94.8 | 95.1 | 95.0 | 95.7 | 98.4 | 102.7 | 104.2 | 101.7 | 99.2 | 100.1 | 146.4 |
| 25000 | 88.9 | 90.1 | 88.0 | 90.8 | 91.7 | 92.2 | 92.9 | 95.2 | 100.1 | 103.4 | 99.9 | 95.6 | 95.0 | 145.5 |
| 31500 | 84.5 | 85.3 | 84.8 | 86.6 | 87.9 | 87.6 | 88.8 | 91.5 | 98.5 | 102.9 | 99.1 | 92.1 | 91.6 | 148.0 |
| 40000 | 79.1 | 80.8 | 79.7 | 81.5 | 84.1 | 83.9 | 84.4 | 88.6 | 96.2 | 100.9 | 96.3 | 88.4 | 86.7 | 149.6 |
| 50000 | 74.4 | 76.4 | 75.6 | 76.6 | 79.1 | 79.5 | 79.6 | 83.5 | 94.3 | 100.8 | 96.2 | 85.0 | 81.9 | 153.1 |
| 63000 | 68.7 | 70.7 | 69.7 | 70.9 | 75.2 | 74.8 | 75.2 | 80.5 | 93.6 | 102.4 | 94.9 | 82.3 | 78.1 | 159.1 |
| 80000 | 64.5 | 66.9 | 63.2 | 65.0 | 70.2 | 69.0 | 69.4 | 75.6 | 83.8 | 92.6 | 85.1 | 72.5 | 68.3 | 156.3 |
| GASPL | 112.3 | 113.2 | 110.8 | 112.6 | 113.1 | 112.3 | 112.8 | 116.7 | 123.2 | 129.0 | 129.3 | 125.8 | 126.2 | 166.7 |
| PWL | 124.8 | 125.8 | 123.4 | 125.1 | 125.4 | 124.6 | 125.2 | 129.4 | 135.7 | 141.2 | 140.7 | 137.3 | 138.4 | |
| DBA | 186.0 | 188.3 | 185.5 | 187.0 | 191.8 | 190.9 | 191.2 | 197.1 | 207.0 | 215.6 | 208.3 | 195.9 | 191.9 | |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH716 TEST DATE = 03-16-82 LOCAT = C41 ANECH CH CNFIG = 2 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 73.00 PAMB HG = 29.25 RELHUM = 65.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBFR =

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ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 50 | 63 | 80 | 100 | 125 | 150 | 200 | 250 | 315 | 400 | 500 | 630 | 800 | 1000 | 1250 | 1500 | 2000 | 2500 | 3150 | 4000 | 5000 | 6300 | 8000 | 10000 | 12500 | 15000 | 20000 | 25000 | 31500 | 40000 | 50000 | 63000 | 80000 | |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PWL | 166.9 | 168.4 | 170.0 | 171.1 | 172.4 | 172.6 | 173.1 | 173.1 | 172.8 | 172.6 | 172.4 | 172.4 | 171.1 | 170.6 | 169.7 | 169.3 | 168.2 | 167.1 | 166.2 | 164.8 | 164.9 | 167.9 | 171.5 | 177.5 | 174.6 | | | | | | | | | |
| 50 | 70.5 | 72.6 | 70.2 | 73.2 | 74.1 | 72.4 | 72.5 | 74.3 | 82.7 | 90.5 | 92.9 | 91.3 | 85.5 | 166.9 | 168.4 | 170.0 | 171.1 | 172.4 | 172.6 | 173.1 | 173.1 | 172.8 | 172.4 | 171.1 | 170.6 | 169.7 | 169.3 | 168.2 | 167.1 | 166.2 | 164.8 | 164.9 | 167.9 | 171.5 |
| 63 | 70.8 | 73.5 | 70.8 | 74.0 | 75.9 | 74.5 | 73.8 | 78.7 | 84.7 | 93.4 | 94.7 | 91.6 | 85.2 | 168.4 | 170.0 | 171.1 | 172.4 | 172.6 | 173.1 | 173.1 | 172.8 | 172.4 | 171.1 | 170.6 | 169.7 | 169.3 | 168.2 | 167.1 | 166.2 | 164.8 | 164.9 | 167.9 | 171.5 | |
| 80 | 72.4 | 75.2 | 72.4 | 75.4 | 77.0 | 75.7 | 75.9 | 78.7 | 87.6 | 95.8 | 96.6 | 91.6 | 85.8 | 170.0 | 171.1 | 172.4 | 172.6 | 173.1 | 173.1 | 172.8 | 172.4 | 171.1 | 170.6 | 169.7 | 169.3 | 168.2 | 167.1 | 166.2 | 164.8 | 164.9 | 167.9 | 171.5 | | |
| 100 | 73.9 | 76.3 | 74.1 | 76.9 | 78.7 | 77.7 | 77.5 | 80.5 | 90.1 | 97.8 | 98.3 | 92.1 | 87.6 | 171.1 | 172.4 | 172.6 | 173.1 | 173.1 | 172.8 | 172.4 | 171.1 | 170.6 | 169.7 | 169.3 | 168.2 | 167.1 | 166.2 | 164.8 | 164.9 | 167.9 | 171.5 | | | |
| 125 | 76.6 | 76.6 | 75.8 | 78.6 | 80.1 | 79.3 | 79.3 | 83.0 | 91.2 | 98.9 | 98.3 | 91.1 | 88.4 | 172.3 | 172.6 | 173.1 | 173.1 | 172.8 | 172.4 | 171.1 | 170.6 | 169.7 | 169.3 | 168.2 | 167.1 | 166.2 | 164.8 | 164.9 | 167.9 | 171.5 | | | | |
| 150 | 78.0 | 79.5 | 77.1 | 80.7 | 83.3 | 81.3 | 83.8 | 89.4 | 98.4 | 98.8 | 91.3 | 88.5 | 172.6 | 172.6 | 173.1 | 173.1 | 172.8 | 172.4 | 171.1 | 170.6 | 169.7 | 169.3 | 168.2 | 167.1 | 166.2 | 164.8 | 164.9 | 167.9 | 171.5 | | | | | |
| 200 | 78.4 | 83.6 | 81.8 | 83.7 | 83.6 | 82.4 | 82.5 | 85.3 | 93.3 | 99.4 | 98.3 | 90.9 | 87.4 | 173.1 | 173.1 | 172.8 | 172.4 | 171.1 | 170.6 | 169.7 | 169.3 | 168.2 | 167.1 | 166.2 | 164.8 | 164.9 | 167.9 | 171.5 | | | | | | |
| 250 | 80.4 | 81.9 | 80.6 | 83.0 | 83.5 | 82.5 | 83.4 | 87.4 | 92.5 | 99.3 | 96.7 | 90.0 | 87.6 | 172.8 | 172.6 | 173.1 | 173.1 | 172.8 | 172.4 | 171.1 | 170.6 | 169.7 | 169.3 | 168.2 | 167.1 | 166.2 | 164.8 | 164.9 | 167.9 | 171.5 | | | | |
| 315 | 79.8 | 82.3 | 80.7 | 82.3 | 83.9 | 82.4 | 82.8 | 87.0 | 94.0 | 98.4 | 95.8 | 88.1 | 85.0 | 172.4 | 172.6 | 173.1 | 173.1 | 172.8 | 172.4 | 171.1 | 170.6 | 169.7 | 169.3 | 168.2 | 167.1 | 166.2 | 164.8 | 164.9 | 167.9 | 171.5 | | | | |
| 400 | 78.6 | 82.7 | 81.8 | 84.2 | 84.6 | 83.7 | 84.6 | 88.7 | 92.8 | 95.3 | 92.4 | 85.9 | 82.2 | 171.1 | 172.4 | 172.6 | 173.1 | 173.1 | 172.8 | 172.4 | 171.1 | 170.6 | 169.7 | 169.3 | 168.2 | 167.1 | 166.2 | 164.8 | 164.9 | 167.9 | 171.5 | | | |

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0211 X0211C

BACKGROUND 000000000000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

84.2 83.0 81.7 84.3 84.4 80.7 82.9 84.8 88.0 94.3 94.4 94.4 94.8 131.2

63 88.0 86.5 90.5 92.3 91.4 89.0 92.4 87.6 92.3 97.6 97.5 97.2 135.3

80 88.6 93.8 88.1 91.2 92.1 93.5 92.9 95.6 92.2 96.8 96.5 99.4 135.8

100 88.6 93.8 89.1 92.9 93.7 92.9 96.2 96.1 96.7 98.3 102.3 103.2 138.2

125 85.9 88.1 89.9 92.9 93.8 93.2 95.5 94.2 95.9 97.7 104.9 106.5 141.1

150 84.3 87.6 89.1 89.2 89.8 91.0 92.6 95.3 100.4 105.5 107.7 110.6 142.4

160 85.3 84.3 87.6 89.1 89.2 89.8 91.0 92.6 95.3 100.4 105.5 107.7 142.4

200 87.5 87.6 86.8 90.6 92.0 92.3 92.2 95.9 100.6 102.7 107.8 111.5 145.2

250 87.0 91.1 89.6 92.1 92.2 92.6 94.5 98.1 101.3 107.7 112.8 115.2 146.6

315 87.8 90.4 88.4 91.9 94.0 94.1 94.8 97.9 104.1 110.7 115.1 116.3 150.4

400 89.1 91.4 89.4 92.7 94.5 96.3 98.4 105.6 113.4 117.6 117.8 115.7 152.0

500 89.9 92.7 90.2 93.8 95.1 95.5 96.6 100.8 107.7 116.1 119.4 118.1 153.4

630 95.9 98.2 97.3 100.1 102.0 103.2 104.3 109.4 113.7 118.1 114.6 108.1 153.0

8000 94.9 97.6 96.1 99.7 101.7 102.3 103.8 107.8 112.8 116.3 112.0 106.4 152.1

10000 93.5 95.8 99.8 101.6 102.6 103.1 104.7 110.6 114.4 116.9 110.7 106.9 154.5

12500 91.5 94.0 93.8 97.3 100.0 100.5 102.1 105.5 109.6 114.4 110.3 104.8 151.0

16000 87.8 91.3 90.8 94.6 97.7 99.1 100.2 103.8 108.2 111.9 108.5 101.9 150.3

20000 85.2 88.7 88.4 91.8 95.6 96.3 97.7 101.8 105.9 110.2 105.9 99.3 149.9

25000 81.6 84.8 85.3 88.6 92.4 93.5 95.2 98.8 102.8 106.6 101.8 96.0 148.8

31500 77.9 81.9 81.5 84.8 88.6 89.4 91.2 95.3 99.7 105.1 99.9 93.0 149.7

40000 72.9 76.7 77.6 80.1 84.8 86.0 87.5 92.2 95.9 102.9 96.7 89.0 150.9

50000 68.0 72.2 71.7 74.4 79.0 81.0 82.2 86.9 92.8 99.6 93.5 84.2 151.8

63000 62.5 67.6 66.7 69.0 73.6 75.5 76.9 82.4 88.4 95.3 88.9 79.1 152.7

80000 57.2 63.0 63.0 65.0 69.3 71.1 77.1 84.2 89.4 95.4 84.0 74.2 154.1

GASPL 110.2 112.1 110.3 112.9 114.0 114.0 115.4 119.9 125.6 132.3 131.3 128.1 126.0 167.9

PWL 124.5 127.0 124.2 126.9 126.9 126.9 128.2 133.1 138.4 144.6 144.6 138.3 135.6

DBA 110.5 112.2 110.4 112.8 113.7 113.6 115.0 119.8 125.7 132.4 131.0 126.9 124.1

NASA SHOCK CELL/CIRCULAR C-D NO2/AX/SC-2/NAS3-22514

VEHICLE = ADH725 TEST DATE = 03-17-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 53.00 PAMB HG = 29.55 RELHUM = 69.7 PCT
WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR

FININI = LBS XNL RPM = XNHR XNH RPM V8 = 2398.0 FPS AE8 = 20.4 SQ IN
FNAMB = LBS XNL RPM = XNHR XNH RPM V18 = 2398.0 FPS AE18 = 0. SQ IN
RUNPT = 07 ZER-0211 TAPE = X0211C TEST PT NO = 0211 NC = AE041 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0211 X0211F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 84.2 83.0 81.7 84.3 84.4 80.7 82.9 84.8 88.0 94.3 94.4 94.4 131.2
63 88.0 86.5 90.5 92.3 91.4 89.0 92.4 87.6 92.3 97.6 97.2 97.6 135.3
80 89.8 93.3 88.6 91.1 91.2 92.1 91.5 92.9 95.6 92.2 96.8 98.5 135.8
100 88.6 89.1 92.9 93.7 92.9 93.2 96.2 96.1 96.7 98.3 102.3 103.2 138.2
125 85.9 88.1 89.9 93.8 93.2 92.5 94.2 95.9 97.7 104.9 106.5 107.7 141.1
160 85.3 84.3 87.6 89.1 89.2 89.8 91.0 92.6 95.3 100.4 105.5 107.6 142.4
200 87.5 87.6 86.8 90.6 92.0 92.3 92.2 95.9 100.6 102.7 107.8 111.5 145.2
250 87.0 91.1 89.6 92.1 92.2 92.6 94.5 98.1 101.3 107.7 112.8 114.6 148.6
315 87.8 90.4 88.4 91.9 94.0 94.1 94.8 97.9 104.1 110.7 115.1 116.3 150.4
400 89.1 91.4 89.4 92.7 94.5 93.4 96.3 98.4 105.6 113.4 117.6 117.8 152.0
500 89.9 90.2 93.8 95.1 95.5 96.6 100.8 107.7 116.1 119.4 118.1 115.3 153.4
600 86.2 92.5 94.3 95.4 96.5 96.9 98.7 102.4 110.1 119.4 120.6 118.5 155.0
800 95.2 97.5 98.1 98.5 99.9 104.0 112.0 121.1 121.7 118.6 115.3 156.9
1000 101.9 103.5 99.5 101.3 100.6 99.7 101.6 105.8 113.5 122.6 121.7 118.6 156.9
1250 99.2 104.2 102.5 104.6 104.4 102.3 102.9 107.1 114.8 122.8 122.0 117.6 157.2
1500 100.0 99.5 99.3 101.1 102.4 102.8 103.4 107.4 115.5 121.9 121.3 113.2 156.3
2000 101.4 102.3 99.7 101.8 102.4 102.8 104.3 104.3 108.6 115.5 122.2 120.5 155.9
2500 100.6 101.4 100.0 102.5 103.1 102.2 103.9 109.2 114.9 122.4 118.9 113.2 155.9
3150 100.0 101.6 99.8 102.4 103.4 103.5 104.6 109.4 115.4 121.0 117.8 112.2 155.1
4000 98.3 99.8 98.3 101.6 102.6 102.5 104.9 109.4 113.7 118.6 114.6 109.4 153.2
5000 96.7 99.3 97.3 100.1 102.3 102.5 104.9 109.4 113.7 118.6 114.6 109.4 153.2
6000 95.9 98.2 97.3 100.1 102.0 103.2 104.3 109.4 113.7 118.1 114.6 108.1 153.0
8000 94.9 96.1 96.1 99.7 101.7 102.3 103.5 107.8 112.6 113.4 110.6 106.4 152.1
10000 93.5 96.1 95.8 102.0 102.3 103.8 108.3 111.4 116.3 112.0 106.4 101.2 152.1
12500 91.5 94.0 93.8 97.3 100.0 100.5 102.1 105.5 109.6 114.4 110.3 104.8 151.0
15000 87.8 91.3 90.8 94.6 97.7 99.1 100.2 103.8 108.2 111.9 108.5 101.9 150.3
20000 85.2 88.4 88.4 95.6 96.3 97.7 101.8 105.5 110.2 105.9 99.3 93.1 149.9
25000 81.6 84.8 85.3 88.6 92.4 93.5 95.2 98.8 102.8 106.6 101.8 96.0 148.8
31500 77.9 81.9 81.5 84.8 88.6 89.4 91.2 95.3 99.7 105.1 99.9 93.0 149.7
40000 72.9 75.7 72.6 80.1 84.8 86.0 87.5 92.2 95.9 102.9 96.7 89.0 150.9
50000 68.0 72.2 71.7 74.4 79.0 81.0 82.2 86.9 92.8 99.6 93.5 84.2 151.8
60000 62.5 67.6 66.7 69.0 73.6 75.5 76.9 82.4 88.4 95.3 88.9 79.1 152.7
80000 57.2 63.0 63.0 62.4 67.3 69.3 71.1 77.1 84.2 89.4 84.0 74.2 154.1

GASPL 110.2 112.1 110.3 112.9 114.0 115.4 119.9 125.6 132.3 131.3 128.1 126.0 167.9
PNL 123.1 124.8 123.1 125.8 126.9 126.9 128.2 133.1 138.4 144.6 142.6 138.3 135.6
PNLT 124.5 127.0 124.2 126.9 126.9 126.9 128.2 133.1 138.4 144.6 142.6 138.3 135.6
DBA 179.0 184.5 184.3 184.7 189.5 191.4 193.0 198.8 205.5 211.2 205.5 195.8 184.0

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH725 TEST DATE = 03-17-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLVEL = 0. FPS
IAPLHA = SB59 LEGA, = NO PWL AREA = FULL SPHERE TAMB F = 53.00 PAMB HG = 29.55 RELHUM = 69.7 PCT
WIND DIR = DEQ WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = 0. NBFR =

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OF POOR QUALITY

RUNPT = 82F-ZER-0211 TAPE = X0211F TEST PT NO = 0211 NC = AE041 CORR FAN SPEED = RPM

FNINI = LBS XNL = RPM XNH = RPM XNHR = RPM V6 = 2398.0 FPS AE6 = 20.4 SQ IN
FNAMB = LBS XNL = RPM XNH = RPM V6 = 2398.0 FPS AE6 = 20.4 SQ IN
FNAMB = LBS XNL = RPM XNHR = RPM V6 = 2398.0 FPS AE6 = 20.4 SQ IN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0211 X02111

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

ORIGINAL PAGE IS
OF POOR QUALITY

| | | | | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|-------|-------|------|------|
| FREQ | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 |
| 63 | 68.0 | 71.8 | 70.9 | 74.9 | 77.2 | 76.2 | 78.9 | 80.7 | 87.2 | 93.9 | 96.5 | 94.5 |
| 80 | 71.4 | 75.8 | 73.8 | 79.1 | 82.4 | 85.9 | 84.6 | 87.9 | 91.6 | 99.4 | 95.1 | 89.1 |
| 100 | 75.0 | 79.7 | 77.6 | 83.4 | 86.2 | 89.8 | 88.4 | 91.7 | 94.0 | 100.4 | 94.9 | 89.6 |
| 125 | 80.6 | 83.7 | 82.4 | 88.1 | 91.2 | 94.8 | 93.3 | 96.6 | 98.9 | 104.8 | 98.4 | 93.3 |
| 150 | 84.3 | 86.5 | 85.3 | 90.0 | 92.7 | 95.9 | 94.6 | 97.9 | 100.2 | 106.1 | 99.7 | 94.4 |
| 200 | 78.2 | 79.4 | 80.3 | 84.6 | 86.6 | 89.2 | 87.6 | 90.7 | 93.4 | 99.4 | 92.0 | 86.2 |
| 250 | 79.3 | 81.9 | 80.5 | 84.4 | 86.3 | 89.0 | 87.3 | 90.4 | 93.2 | 99.2 | 91.8 | 86.4 |
| 315 | 78.1 | 80.7 | 80.4 | 83.8 | 85.6 | 88.1 | 86.1 | 89.3 | 92.9 | 98.6 | 91.6 | 86.4 |
| 400 | 77.0 | 80.4 | 80.0 | 83.3 | 84.9 | 86.9 | 84.9 | 87.7 | 91.7 | 97.4 | 90.1 | 84.9 |
| 500 | 74.7 | 78.2 | 78.1 | 82.2 | 83.8 | 85.4 | 83.4 | 86.2 | 90.1 | 95.8 | 88.4 | 83.4 |
| 630 | 72.7 | 77.4 | 76.8 | 80.5 | 83.2 | 85.8 | 83.8 | 86.6 | 90.5 | 96.2 | 88.8 | 83.8 |
| 800 | 70.0 | 75.0 | 75.0 | 79.6 | 82.2 | 84.0 | 82.0 | 84.9 | 88.9 | 94.6 | 87.0 | 82.0 |
| 1000 | 68.1 | 73.1 | 72.1 | 76.7 | 79.6 | 82.1 | 80.1 | 83.0 | 87.0 | 92.7 | 85.0 | 80.1 |
| 1250 | 66.2 | 70.5 | 69.2 | 73.8 | 76.7 | 79.3 | 77.3 | 80.2 | 84.2 | 89.9 | 82.2 | 77.3 |
| 1500 | 65.2 | 69.6 | 68.2 | 72.8 | 75.7 | 78.3 | 76.3 | 79.2 | 83.2 | 88.9 | 81.2 | 76.3 |
| 2000 | 60.6 | 65.0 | 63.4 | 67.4 | 70.4 | 72.9 | 70.9 | 73.8 | 77.8 | 83.5 | 75.8 | 70.9 |
| 2500 | 56.1 | 60.5 | 58.9 | 62.9 | 65.9 | 68.4 | 66.4 | 69.3 | 73.3 | 79.0 | 71.3 | 66.4 |
| 3150 | 49.2 | 53.6 | 52.0 | 56.0 | 59.0 | 61.5 | 59.5 | 62.4 | 66.4 | 72.1 | 64.4 | 59.5 |
| 4000 | 39.2 | 43.6 | 42.0 | 46.0 | 49.0 | 51.5 | 49.5 | 52.4 | 56.4 | 62.1 | 54.4 | 49.5 |
| 5000 | 24.5 | 28.9 | 27.3 | 31.3 | 34.3 | 36.8 | 34.8 | 37.7 | 41.7 | 47.4 | 39.7 | 34.8 |
| 6300 | 1.7 | 6.1 | 4.5 | 8.5 | 11.5 | 14.0 | 12.0 | 14.9 | 18.9 | 24.6 | 16.9 | 12.0 |
| 8000 | 1.7 | 6.1 | 4.5 | 8.5 | 11.5 | 14.0 | 12.0 | 14.9 | 18.9 | 24.6 | 16.9 | 12.0 |

142

| | | | | | | | | | | | | | | |
|---|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| GASPL | 87.6 | 91.2 | 90.5 | 93.8 | 95.2 | 95.3 | 96.6 | 100.7 | 105.8 | 111.7 | 109.2 | 103.5 | 97.2 | 186.1 |
| PWL | 91.4 | 95.3 | 95.4 | 99.2 | 101.7 | 102.4 | 103.5 | 107.2 | 111.5 | 116.2 | 111.9 | 104.0 | 96.3 | |
| PFLT | 92.1 | 96.5 | 95.9 | 99.8 | 101.7 | 102.4 | 103.5 | 107.2 | 111.5 | 116.8 | 111.9 | 104.0 | 96.3 | |
| DBA | 80.6 | 84.6 | 84.7 | 88.7 | 91.1 | 91.8 | 93.0 | 97.1 | 100.7 | 104.6 | 99.7 | 91.2 | 83.2 | |
| MODEL AREA = 131.5 SQ CM (20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9 | | | | | | | | | | | | | | |

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

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| IAPLHA = SB59 | | | | | | | | | | | | | LEGA = NO | | | | | | | | | | | | | MPH | | | | | | | | | | | | | EXT DIST = 2400.0 FT | | | | | | | | | | | | | TAMB F = 53.00 | | | | | | | | | | | | | PAMB HG = 29.55 | | | | | | | | | | | | | RELHUM = 69.7 PCT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 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| | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | | V8 | | | | | | | | | | | | | = | | | | | | | | | | | | | RPM | | | | | | | | | | | | |

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0212 X0212C
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 86.7 86.1 81.8 82.6 82.8 82.7 83.8 91.7 98.2 102.8 102.7 97.0 96.2 137.9

63 87.6 87.8 89.1 90.2 89.0 87.3 92.0 90.6 93.3 104.6 105.5 96.1 99.8 139.6

80 89.4 93.7 86.4 90.7 90.8 91.3 90.5 94.5 95.3 101.1 103.8 97.9 100.2 136.5

100 89.0 93.1 86.9 90.5 91.9 91.0 91.4 94.8 96.1 104.4 100.5 101.7 103.1 139.5

125 86.0 87.8 86.8 90.6 92.0 91.6 91.7 93.9 95.1 102.2 104.6 104.5 106.1 140.5

150 85.2 85.5 85.5 86.3 86.6 87.5 88.3 92.6 93.5 103.4 103.5 105.2 109.1 141.1

160 84.2 83.9 83.9 85.5 86.8 87.5 88.3 92.6 93.5 103.4 103.5 105.2 109.1 141.1

200 85.2 85.7 86.8 88.1 89.5 90.1 91.2 96.2 100.1 107.9 111.8 113.3 112.9 147.2

250 84.7 86.7 83.9 86.6 89.1 89.5 90.1 95.6 97.6 107.1 109.0 112.0 111.9 145.7

315 84.5 88.1 83.8 88.1 90.5 90.1 91.2 96.2 100.1 107.9 111.8 113.3 112.9 147.2

400 85.5 88.3 85.1 90.9 90.7 90.1 91.5 96.6 101.4 109.4 114.1 114.8 111.7 148.5

500 86.5 88.5 86.5 90.3 92.2 92.8 92.8 97.5 103.2 112.1 116.5 115.4 109.8 150.1

550 86.9 88.5 86.5 90.3 92.1 92.7 93.1 94.7 99.4 105.4 115.4 114.5 106.9 151.4

600 88.0 90.8 88.1 92.1 92.7 93.1 94.7 99.4 105.4 115.4 114.5 106.9 151.4

630 88.0 90.8 88.1 92.1 92.7 93.1 94.7 99.4 105.4 115.4 114.5 106.9 151.4

650 88.0 90.8 88.1 92.1 92.7 93.1 94.7 99.4 105.4 115.4 114.5 106.9 151.4

700 89.0 91.9 89.0 91.9 91.9 91.9 91.9 91.9 91.9 91.9 91.9 91.9 91.9 91.9

800 91.9 93.3 92.3 95.7 97.7 99.0 100.2 106.3 111.7 114.1 105.1 100.7 150.6

1000 91.9 93.3 92.3 95.7 97.7 99.0 100.2 106.3 111.7 114.1 105.1 100.7 150.6

12500 87.9 89.6 89.6 94.2 96.4 97.4 98.4 99.4 101.3 107.2 113.1 119.7 154.5

16000 85.4 86.7 86.7 91.3 94.4 95.6 97.2 101.3 107.4 108.7 106.4 98.4 93.7 147.8

20000 81.3 84.2 83.1 87.4 91.2 92.5 94.1 98.2 99.9 101.6 98.9 93.5 86.7 145.0

25000 80.6 81.4 80.2 84.3 88.1 90.0 91.9 95.2 99.9 103.4 95.9 90.3 147.0

31500 74.4 77.6 75.6 79.8 84.8 85.4 86.9 91.5 96.6 99.9 96.6 89.2 82.7 145.5

40000 68.8 72.5 72.2 75.6 80.5 81.6 83.2 87.9 93.7 99.0 94.9 85.7 78.0 147.6

50000 65.1 67.1 66.2 70.0 74.7 72.0 77.2 79.3 83.3 83.3 81.4 73.2 149.1

63000 61.8 64.8 62.6 65.6 68.7 66.5 72.2 76.2 79.3 89.4 89.4 67.3 153.6

80000 60.1 63.9 62.5 61.8 68.7 66.5 72.2 76.2 79.3 89.4 89.4 67.3 153.6

DBA 105.6 107.3 105.5 108.9 110.0 110.3 112.0 117.8 123.7 129.9 130.4 123.4 117.6

PWL

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH715 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CONF16 = 2 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 LEGA = NO EXT DIST = 40.0 FT PWL AREA = FULL SPHERE TAMB F = 73.00 PAMB HG = 29.25 RELHUM = 65.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONF16 = ARC MIKE HT = NBFR =

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 8ZF-400-0212 X0212F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

ORIGINAL PAGE IS
OF POOR QUALITY

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 250 | 91.7 | 92.6 | 88.5 | 91.6 | 90.6 | 89.5 | 88.2 | 92.0 | 96.7 | 103.6 | 106.9 | 108.8 | 110.3 | 143.3 |
| 315 | 91.7 | 92.6 | 88.4 | 91.6 | 92.2 | 90.3 | 89.9 | 93.4 | 98.5 | 105.7 | 109.9 | 111.4 | 110.8 | 145.3 |
| 400 | 91.9 | 94.3 | 88.6 | 91.4 | 92.5 | 90.3 | 90.6 | 94.4 | 101.7 | 110.0 | 114.4 | 114.7 | 112.6 | 148.8 |
| 500 | 92.8 | 94.5 | 89.9 | 94.2 | 94.0 | 92.5 | 92.1 | 95.9 | 103.4 | 113.1 | 116.0 | 114.6 | 111.8 | 150.0 |
| 630 | 94.6 | 94.9 | 91.4 | 93.7 | 94.6 | 93.5 | 93.8 | 97.2 | 106.6 | 115.4 | 118.0 | 115.3 | 113.7 | 151.9 |
| 800 | 96.0 | 92.9 | 95.5 | 96.1 | 95.2 | 96.0 | 97.1 | 101.0 | 110.5 | 118.5 | 120.1 | 115.0 | 116.5 | 154.2 |
| 1000 | 98.0 | 96.8 | 94.3 | 97.0 | 98.0 | 97.1 | 97.1 | 101.0 | 110.5 | 118.5 | 120.1 | 115.0 | 116.5 | 154.2 |
| 1250 | 100.1 | 99.7 | 98.7 | 98.3 | 101.5 | 99.1 | 98.3 | 101.9 | 112.0 | 118.3 | 120.6 | 115.5 | 116.3 | 154.5 |
| 1600 | 101.1 | 103.9 | 100.7 | 102.3 | 101.8 | 99.6 | 100.2 | 104.0 | 112.9 | 119.4 | 120.8 | 116.7 | 115.2 | 155.2 |
| 2000 | 102.5 | 102.3 | 100.1 | 101.4 | 101.2 | 101.1 | 101.2 | 104.7 | 112.9 | 119.7 | 119.9 | 114.9 | 116.8 | 154.9 |
| 2500 | 102.9 | 103.1 | 100.3 | 101.5 | 103.0 | 101.0 | 101.3 | 106.2 | 114.5 | 119.1 | 115.0 | 116.7 | 115.4 | 154.8 |
| 3150 | 103.5 | 104.1 | 101.2 | 103.4 | 103.2 | 102.5 | 102.5 | 107.0 | 114.1 | 119.2 | 118.5 | 113.4 | 116.2 | 154.5 |
| 4000 | 102.1 | 103.2 | 100.6 | 102.6 | 102.1 | 103.7 | 103.8 | 113.6 | 117.3 | 116.5 | 116.0 | 111.1 | 113.0 | 153.3 |
| 5000 | 100.7 | 102.2 | 99.5 | 102.4 | 102.5 | 102.4 | 103.3 | 107.5 | 113.7 | 116.5 | 116.0 | 111.1 | 113.0 | 152.8 |
| 6300 | 100.1 | 101.9 | 98.8 | 102.3 | 102.8 | 102.8 | 102.8 | 108.1 | 113.0 | 114.9 | 115.5 | 109.9 | 113.1 | 152.3 |
| 8000 | 102.4 | 103.1 | 100.3 | 102.2 | 102.3 | 102.0 | 101.7 | 106.4 | 111.3 | 114.3 | 113.8 | 108.6 | 111.3 | 151.5 |
| 10000 | 101.8 | 101.9 | 99.5 | 101.3 | 102.7 | 101.9 | 102.1 | 106.4 | 110.3 | 112.0 | 111.2 | 106.8 | 108.5 | 150.4 |
| 12500 | 100.1 | 101.3 | 98.8 | 101.3 | 101.0 | 100.4 | 100.2 | 104.0 | 109.3 | 110.2 | 108.3 | 103.5 | 106.0 | 149.4 |
| 16000 | 97.1 | 97.5 | 96.1 | 99.0 | 99.0 | 98.6 | 98.6 | 101.3 | 106.3 | 108.7 | 105.6 | 101.1 | 102.4 | 148.4 |
| 20000 | 94.1 | 94.2 | 92.7 | 95.8 | 95.8 | 95.5 | 98.7 | 103.0 | 104.3 | 102.1 | 99.9 | 100.5 | 146.7 | |
| 25000 | 89.4 | 91.1 | 88.5 | 91.3 | 92.7 | 93.0 | 93.4 | 95.2 | 100.3 | 103.2 | 100.1 | 95.8 | 96.2 | 146.7 |
| 31500 | 88.0 | 87.5 | 84.8 | 87.3 | 89.4 | 88.4 | 88.3 | 91.5 | 98.3 | 103.1 | 99.3 | 93.1 | 92.4 | 148.3 |
| 40000 | 80.8 | 82.8 | 79.4 | 82.0 | 85.1 | 84.6 | 84.6 | 87.8 | 96.4 | 100.9 | 96.1 | 89.2 | 87.9 | 149.6 |
| 50000 | 74.9 | 77.4 | 75.6 | 77.4 | 79.3 | 80.2 | 79.9 | 83.2 | 95.3 | 101.8 | 95.4 | 86.0 | 83.0 | 153.8 |
| 63000 | 70.2 | 71.0 | 68.7 | 70.9 | 77.0 | 75.0 | 78.7 | 79.3 | 93.4 | 104.9 | 95.4 | 82.1 | 77.5 | 161.2 |
| 80000 | 65.5 | 67.2 | 63.5 | 65.0 | 73.3 | 69.5 | 73.6 | 76.1 | 83.6 | 95.1 | 85.6 | 72.3 | 67.7 | 158.3 |
| DBA | 187.1 | 188.6 | 185.4 | 187.1 | 194.4 | 191.3 | 195.0 | 197.2 | 206.9 | 218.1 | 208.7 | 195.8 | 191.5 | |
| PWL | 125.4 | 126.2 | 123.2 | 125.5 | 125.7 | 124.8 | 125.4 | 130.3 | 136.3 | 141.4 | 141.7 | 137.5 | 139.0 | |
| GASPL | 112.8 | 113.6 | 110.8 | 113.1 | 113.5 | 112.7 | 112.9 | 117.3 | 123.9 | 129.1 | 130.0 | 126.1 | 126.8 | 167.7 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH715 TEST DATE = 03-16-82
IAPLHA = SB59 DEG WIND VEL = NO
WIND DIR = 187.1
FNRAMB = LBS XNLR = RPM XNHR = RPM V6 = 2410.0 FPS AEB AE18 = 0.4 SQ IN
FLTVEL = 400. FPS
RELHUM = 65.6 PCT
NBFR =

RUNPT = 8 00-0212 TAPE = X0212F TEST PT NO = 0212 NC = AE039 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0212 X02121

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 50 | 70.8 | 74.7 | 70.1 | 73.7 | 75.2 | 73.1 | 73.2 | 76.6 | 83.2 | 90.5 | 93.3 | 91.4 | 86.0 |
| 63 | 71.7 | 74.9 | 71.4 | 76.5 | 76.6 | 75.3 | 74.8 | 78.1 | 84.9 | 93.5 | 94.9 | 91.3 | 85.1 |
| 80 | 73.4 | 75.3 | 72.9 | 75.9 | 77.2 | 76.2 | 76.4 | 79.4 | 88.1 | 95.8 | 96.9 | 91.9 | 86.9 |
| 100 | 73.9 | 77.2 | 74.3 | 77.7 | 78.7 | 77.9 | 77.5 | 80.6 | 90.2 | 97.9 | 92.8 | 88.0 | 81.8 |
| 125 | 76.7 | 77.0 | 75.6 | 79.0 | 80.5 | 79.8 | 79.6 | 83.1 | 91.8 | 98.8 | 98.7 | 91.3 | 89.4 |
| 160 | 78.6 | 79.8 | 80.3 | 83.8 | 81.6 | 80.7 | 83.9 | 93.2 | 98.4 | 99.0 | 91.6 | 88.8 | 81.2 |
| 200 | 79.3 | 83.8 | 81.7 | 84.1 | 81.9 | 82.5 | 85.8 | 93.9 | 99.3 | 99.0 | 91.7 | 88.7 | 81.3 |
| 250 | 80.4 | 81.9 | 80.9 | 82.9 | 83.2 | 83.2 | 86.3 | 93.7 | 99.3 | 97.8 | 90.3 | 88.1 | 81.3 |
| 315 | 80.4 | 82.3 | 80.8 | 82.8 | 84.8 | 82.9 | 83.1 | 87.5 | 95.0 | 98.4 | 96.6 | 89.9 | 87.2 |
| 400 | 80.5 | 82.9 | 81.3 | 84.4 | 84.6 | 84.1 | 84.0 | 88.0 | 94.2 | 98.0 | 95.5 | 87.6 | 85.7 |
| 500 | 78.6 | 81.7 | 80.4 | 83.9 | 84.0 | 83.5 | 84.8 | 89.9 | 93.6 | 95.1 | 93.8 | 86.0 | 83.0 |
| 630 | 76.7 | 80.3 | 79.0 | 82.8 | 83.4 | 84.2 | 87.9 | 93.2 | 94.5 | 92.0 | 83.9 | 80.5 | 71.1 |
| 800 | 75.6 | 78.0 | 82.4 | 83.6 | 83.5 | 86.2 | 92.1 | 92.6 | 91.0 | 82.0 | 79.4 | 170.6 | |
| 1000 | 77.4 | 80.5 | 79.2 | 82.2 | 82.7 | 86.4 | 90.3 | 91.7 | 88.8 | 80.0 | 76.5 | 169.8 | |
| 1250 | 76.4 | 79.0 | 78.2 | 81.1 | 82.5 | 86.2 | 89.0 | 89.1 | 85.8 | 77.5 | 72.3 | 168.8 | |
| 1600 | 73.8 | 77.7 | 77.1 | 80.7 | 81.1 | 80.7 | 80.3 | 83.4 | 87.6 | 86.7 | 82.0 | 72.8 | 167.8 |
| 2000 | 69.8 | 73.4 | 74.0 | 78.2 | 78.9 | 78.6 | 80.5 | 84.2 | 84.6 | 78.3 | 68.8 | 60.8 | 166.7 |
| 2500 | 65.0 | 68.8 | 69.7 | 74.3 | 75.2 | 75.1 | 74.8 | 77.2 | 80.0 | 78.9 | 73.0 | 64.7 | 165.1 |
| 3150 | 57.0 | 63.3 | 63.7 | 68.2 | 70.7 | 71.3 | 71.3 | 72.2 | 75.5 | 75.4 | 67.7 | 55.7 | 165.0 |
| 4000 | 49.3 | 55.0 | 56.1 | 61.0 | 64.4 | 63.8 | 63.3 | 65.2 | 69.6 | 70.6 | 60.6 | 44.0 | 166.7 |
| 5000 | 32.4 | 42.7 | 44.5 | 50.3 | 55.1 | 55.2 | 54.6 | 56.1 | 61.5 | 60.8 | 47.6 | 26.4 | 168.0 |
| 6300 | 8.7 | 23.0 | 28.6 | 34.9 | 39.3 | 39.8 | 40.7 | 48.4 | 47.5 | 47.5 | 29.2 | 172.2 | 179.5 |
| 8000 | | 0.4 | | 9.1 | 18.8 | 17.9 | 20.5 | 17.5 | 25.1 | 25.7 | | | 176.6 |

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OF POOR QUALITY

MODEL AREA = 131.5 SQ CM (20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9
NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514
VEHICL = ADH715 TEST DATE = 03-16-82 LOCAT = C41 ANECH CH CNFIGN = 2 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGL = NO PWL AREA = FULL SPHERE TAMB F = 73.00 PAMB HG = 29.25 RELHUM = 65.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIGN = SL MIKE HT = NBFR
FNINI = LBS XNLR = RPM XNHR = V8 RPM V8 = 2410.0 FPS AE8 = 20.4 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = V8 RPM V8 = 2410.0 FPS AE8 = 20.4 SQ IN
RPM = X02121 TEST PT NO = 0212 NC = AE039 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0213 X0213C

BACKGROUND 000000000000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 84.4 83.5 82.0 82.5 83.6 84.5 82.1 84.8 94.5 94.6 94.9 94.4 95.0 132.2

63 88.2 87.0 90.5 91.3 90.2 89.7 89.6 98.0 97.4 98.5 98.2 99.6 136.2

80 89.8 94.1 88.6 91.4 91.5 92.1 91.7 93.1 95.3 92.7 96.8 98.2 99.6 135.9

100 89.1 93.8 88.4 93.4 94.0 92.9 93.5 96.4 97.1 96.7 98.6 102.3 103.7 138.5

125 86.1 88.6 90.2 93.2 94.3 93.9 92.8 93.7 95.7 97.5 105.1 106.8 141.3

160 85.3 87.3 88.9 89.2 89.6 89.2 93.1 96.1 99.4 104.5 107.5 110.4 142.0

200 87.3 87.3 86.8 90.4 92.5 92.3 92.7 95.9 101.1 101.9 107.0 110.5 144.6

250 87.3 90.8 89.3 92.1 92.5 92.6 95.0 98.6 102.1 107.7 112.5 115.4 148.8

315 88.1 90.1 88.4 91.9 94.0 94.1 95.0 97.9 105.4 109.9 114.1 116.5 150.2

400 89.1 91.6 89.6 93.2 94.3 93.6 96.5 99.2 107.1 113.2 117.1 118.0 152.1

500 90.7 93.0 90.2 93.8 95.4 95.7 96.9 101.3 109.2 115.8 118.7 118.4 153.3

630 91.8 94.8 92.4 95.6 96.7 96.6 98.2 103.1 112.6 118.7 120.1 118.7 154.8

800 96.9 95.7 94.7 98.1 98.5 100.1 104.8 114.5 120.1 120.9 118.9 117.3 155.9

1000 101.7 103.5 98.8 100.8 100.6 100.6 101.6 106.8 116.0 121.6 121.7 119.6 156.9

1250 99.5 104.5 102.3 104.8 103.6 102.0 102.9 108.1 117.0 122.3 121.5 118.9 157.3

1500 101.2 100.0 99.5 101.8 102.9 102.6 104.5 109.6 118.0 122.5 119.8 116.3 156.8

1600 101.9 102.5 100.0 101.3 102.4 102.6 104.5 109.6 118.0 122.5 119.8 116.3 156.8

2000 101.9 102.5 100.0 101.3 102.4 102.6 104.5 109.6 118.0 122.5 119.8 116.3 156.8

2500 100.9 101.9 100.5 103.0 103.3 102.7 104.4 110.5 117.4 122.1 117.9 115.0 156.1

3150 100.0 101.8 100.1 102.9 103.4 103.3 105.1 110.1 117.4 120.8 117.0 113.7 109.5 155.3

4000 99.3 100.3 98.8 102.1 103.4 103.4 105.0 111.1 116.4 120.4 115.6 111.9 107.4 154.8

5000 98.2 99.8 98.1 101.1 102.5 102.5 105.6 109.9 115.2 118.1 114.4 110.4 105.9 153.2

6300 96.7 98.9 97.8 100.6 102.5 103.5 104.8 110.2 114.7 117.3 113.6 108.9 104.9 152.9

8000 95.4 97.3 96.3 99.8 100.0 102.2 102.3 104.0 108.6 114.0 115.6 112.4 106.8 152.0

10000 93.8 97.1 95.8 99.8 102.0 102.3 104.0 108.3 112.7 115.1 111.0 105.9 102.7 151.7

12500 92.0 94.0 94.0 97.5 100.5 101.0 102.3 106.5 110.4 113.4 108.8 103.8 98.7 150.6

16000 88.8 91.3 91.6 95.1 98.2 98.9 100.5 104.3 109.7 111.7 106.7 101.7 96.9 150.3

20000 85.7 89.0 92.1 95.6 98.6 98.6 101.8 106.8 109.7 103.4 99.0 94.1 149.6

25000 82.1 86.1 85.8 89.1 92.2 93.5 95.7 99.0 103.6 107.1 100.6 95.7 89.4 149.2

31500 77.9 81.7 81.7 85.3 88.8 89.7 91.4 96.0 100.7 104.6 97.6 92.3 85.3 149.5

40000 73.9 77.0 78.1 80.6 84.6 85.7 87.5 92.7 98.4 102.1 95.4 88.5 79.9 150.8

50000 68.2 72.7 72.2 75.4 79.2 81.3 82.9 87.1 94.6 99.4 91.5 83.7 75.2 151.8

63000 62.5 67.9 66.4 69.5 73.8 75.5 77.2 82.2 89.9 95.3 86.9 78.8 70.0 152.8

80000 57.7 62.7 61.8 62.6 67.1 69.6 71.3 78.1 85.5 91.4 82.0 74.2 63.0 155.5

GASPL 110.7 112.4 110.5 113.2 114.2 114.1 115.8 120.7 127.6 131.8 130.7 128.8 126.6 168.0

PWL 124.6 127.2 124.4 127.3 127.0 126.9 128.6 133.7 140.3 144.2 142.5 139.4 136.2

DBA 111.0 112.5 110.5 113.1 113.9 113.6 115.4 120.6 127.8 132.0 130.4 127.8 124.8

NASA SHOCK CELL/CIRCULAR C-D NGZ/AX/SC-2/NAS3-22514

VEHICLE = ADH726 TEST DATE = 03-17-82 LOCAT = C41 ANECH CH CNF10 = 2 MODEL = AX FLTVL = 0. FPS
IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 53.00 PAMB HG = 29.55 RELHUM = 69.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNF10 = ARC MIKE HT = NBR

FNINI = LBS XNL RPM = XNH XNHR = RPM V8 = 2416.6 FPS AEB = 20.4 SQ IN
FNRAMB = LBS XNLR = XNHR = RPM V18 = 2416.6 FPS AE18 = 0. SQ IN

RUNPT = 82F-ZER-0213 TAPE = X0213C TEST PT NO = 0213 NC = AE041 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0213 X0213F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 84.4 83.5 82.0 82.5 83.6 84.5 82.1 84.8 94.5 94.6 94.9 94.4 95.0 132.2

63 88.2 87.0 90.5 91.3 90.2 90.5 89.7 89.6 98.0 97.4 98.5 98.2 98.6 136.2

80 89.8 93.1 91.4 91.5 92.1 91.7 93.1 95.3 92.7 96.8 98.2 99.6 135.9

100 89.1 93.8 93.4 94.0 92.9 93.5 96.4 97.1 96.7 98.6 102.3 103.7 138.5

125 86.1 88.6 90.2 93.2 94.3 93.9 92.8 93.7 95.7 97.5 105.1 106.8 141.3

160 85.3 84.8 87.3 88.9 89.2 89.6 91.2 93.1 96.1 99.4 104.5 107.5 142.0

200 87.3 87.3 86.8 90.4 92.5 92.3 92.7 95.9 101.1 101.9 107.0 110.5 144.6

250 87.3 90.8 89.3 92.1 92.5 92.6 95.0 98.6 102.1 107.7 112.5 115.4 148.8

315 88.1 90.1 88.4 91.9 94.0 94.1 95.0 97.9 105.4 109.9 114.1 116.5 150.2

400 89.1 91.6 89.6 93.2 94.3 93.6 96.5 99.2 107.1 113.2 117.1 118.0 152.1

500 90.7 93.0 90.2 93.8 95.4 95.7 96.9 101.3 109.2 115.8 118.7 118.4 153.3

630 91.8 94.8 92.4 95.6 96.7 96.6 98.2 103.1 112.6 118.7 120.1 118.7 154.8

800 96.9 97.5 94.7 97.5 98.1 98.5 100.1 104.8 114.5 120.1 120.9 117.3 155.9

1000 101.7 103.5 98.8 100.8 100.6 100.0 101.6 106.8 116.0 121.6 121.7 119.6 156.9

1250 99.5 104.5 102.3 104.8 103.6 102.0 102.9 108.1 117.0 122.3 121.5 118.9 157.3

1600 101.2 100.0 99.5 101.8 102.9 102.0 104.1 108.7 118.0 121.1 121.2 117.2 156.7

2000 101.9 102.3 100.0 101.3 102.4 102.6 104.5 108.6 118.0 122.5 119.8 116.8 156.8

2500 100.9 101.9 100.5 103.0 103.3 102.7 104.4 110.5 117.4 122.1 117.9 115.0 156.1

3150 100.0 101.8 100.1 102.9 103.4 103.3 105.1 110.1 117.4 120.8 117.0 113.7 155.3

4000 99.3 100.3 98.8 102.1 103.4 105.0 111.1 116.1 120.4 115.6 111.9 107.4 154.8

5000 98.2 99.8 98.1 101.1 102.5 102.5 105.6 109.9 115.2 118.1 114.4 110.4 153.2

6300 96.7 98.9 97.8 100.6 102.5 103.5 104.8 110.2 114.7 117.3 113.6 108.9 152.9

8000 95.4 97.3 96.3 100.0 102.2 102.3 104.0 108.6 114.0 115.6 112.4 106.8 152.0

10000 97.1 95.8 98.8 102.0 102.3 104.0 108.0 112.7 115.1 111.0 105.9 102.7 151.7

12500 92.0 94.0 97.5 100.5 101.0 102.3 106.5 110.4 113.4 108.6 103.8 98.7 150.6

16000 88.8 91.3 91.6 95.1 98.2 98.9 100.5 104.3 109.7 111.7 106.7 101.7 150.3

20000 85.7 89.0 88.6 92.1 95.6 96.3 98.4 101.8 106.8 109.4 103.4 99.0 149.6

25000 82.1 86.1 85.8 89.1 92.2 93.5 95.7 99.0 103.6 107.1 100.6 95.7 149.2

31500 77.9 81.7 81.7 85.3 88.6 89.7 91.4 96.0 100.7 104.6 97.6 92.3 149.5

40000 73.9 77.0 78.1 80.6 84.6 85.7 87.5 92.7 98.4 102.1 95.4 88.5 150.8

50000 68.2 72.7 72.2 75.4 79.2 81.3 82.9 87.1 94.6 99.4 91.5 83.7 151.8

63000 62.5 67.9 66.4 69.5 73.8 75.5 77.2 82.2 89.9 95.3 86.9 78.8 152.8

80000 57.7 62.7 61.8 62.6 67.1 69.6 71.3 78.1 85.5 91.4 82.0 74.2 155.5

DBA 179.4 184.4 183.4 185.1 189.4 191.6 193.3 199.5 206.9 212.6 203.5 195.7 185.4

PWL 124.6 127.2 124.4 127.3 127.0 126.9 128.6 133.7 140.3 144.2 142.5 139.4 136.2

PNL 123.4 125.1 123.4 126.1 127.0 126.9 128.6 133.7 140.3 144.2 141.9 139.4 136.2

GASPL 110.7 112.4 110.5 113.2 114.2 114.1 115.8 120.7 127.6 131.8 130.7 128.8 126.6 168.0

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH726 TEST DATE = 03-17-82 LOCAL = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS

IAPLHA = SB59 DEQ WIND VEL = NO MPH EXT AREA = FULL SPHERE TAMB F = 53.00 PAMB HG = 29.55 MIKE HT = NBFR

WIND DIR = DEQ WIND VEL = NO MPH EXT DIST = 40.0 FT EXT CONFIG = ARC

FNIN1 = LBS XNL RPM XNH RPM V8 = 2416.6 FPS AEB AE18 = 20.4 SO IN

FNRAMB = LBS XNL RPM XNH RPM V8 = 2416.6 FPS AEB AE18 = 20.4 SO IN

RUNPT = 82F-ZER-0213 TAPE = X0213F TEST PT NO = 0213 NC = AE041 CORR FAN SPEED = RPM

ORIGINAL PAGE 3
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0213 X02131

ANGLES MEASURED FROM INLET, DEGREES

| 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. | |
|---|----------------------|----------------------|------------|------------------------|------------------|-------------------|--------|-----------------|------------|----------------|--------|------------------|------------|
| FREQ | 66.0 | 72.1 | 71.2 | 75.4 | 76.9 | 76.4 | 79.2 | 81.4 | 88.7 | 93.7 | 96.0 | 94.7 | PWL |
| 50 | 69.6 | 73.4 | 71.8 | 76.0 | 78.0 | 78.5 | 79.5 | 83.5 | 90.8 | 96.3 | 97.6 | 95.1 | 171.6 |
| 60 | 68.0 | 72.1 | 71.2 | 75.4 | 76.9 | 76.4 | 79.2 | 81.4 | 88.7 | 93.7 | 96.0 | 94.7 | 170.5 |
| 80 | 70.6 | 75.2 | 73.8 | 77.8 | 79.3 | 79.3 | 80.8 | 85.3 | 94.1 | 99.1 | 98.9 | 95.4 | 173.2 |
| 100 | 75.7 | 76.1 | 76.2 | 79.7 | 80.7 | 81.2 | 82.7 | 86.9 | 95.9 | 100.4 | 99.7 | 95.4 | 174.2 |
| 125 | 80.3 | 83.7 | 80.1 | 82.9 | 83.1 | 82.6 | 84.1 | 88.9 | 97.3 | 101.8 | 100.4 | 96.0 | 175.3 |
| 160 | 77.9 | 84.6 | 83.5 | 86.7 | 86.0 | 84.5 | 85.3 | 90.0 | 98.2 | 102.4 | 99.9 | 95.0 | 175.6 |
| 200 | 79.4 | 79.9 | 80.6 | 83.6 | 83.1 | 84.4 | 86.3 | 90.5 | 99.1 | 101.0 | 99.5 | 93.0 | 175.0 |
| 250 | 79.8 | 82.1 | 80.7 | 82.9 | 84.7 | 86.5 | 91.2 | 98.7 | 102.1 | 97.7 | 91.7 | 83.5 | 175.1 |
| 315 | 78.4 | 81.2 | 80.9 | 84.3 | 85.1 | 84.6 | 86.1 | 91.8 | 97.8 | 101.4 | 95.4 | 89.8 | 174.5 |
| 400 | 77.0 | 80.7 | 80.2 | 83.8 | 84.9 | 84.9 | 86.6 | 91.1 | 97.6 | 99.6 | 94.0 | 87.9 | 173.7 |
| 500 | 75.7 | 78.7 | 82.7 | 84.6 | 84.7 | 86.2 | 91.7 | 96.2 | 98.9 | 92.1 | 85.5 | 76.0 | 173.1 |
| 600 | 72.2 | 76.6 | 80.7 | 83.2 | 84.3 | 85.4 | 90.3 | 93.9 | 95.0 | 89.1 | 81.0 | 71.2 | 171.2 |
| 800 | 72.2 | 76.6 | 80.7 | 83.2 | 84.3 | 85.4 | 90.3 | 93.9 | 95.0 | 89.1 | 81.0 | 71.2 | 171.2 |
| 1000 | 70.5 | 74.7 | 75.3 | 79.9 | 82.7 | 83.0 | 84.5 | 88.5 | 93.0 | 87.4 | 78.3 | 68.9 | 170.3 |
| 1250 | 68.4 | 74.1 | 74.5 | 79.6 | 82.4 | 82.8 | 84.4 | 88.0 | 91.4 | 92.1 | 85.6 | 66.4 | 170.1 |
| 1600 | 65.7 | 70.5 | 72.3 | 76.9 | 80.6 | 81.3 | 82.4 | 85.9 | 88.7 | 89.8 | 82.5 | 73.1 | 169.0 |
| 2000 | 61.6 | 67.2 | 69.5 | 74.3 | 78.1 | 79.0 | 80.4 | 83.5 | 87.6 | 87.5 | 79.4 | 69.3 | 168.7 |
| 2500 | 56.6 | 63.6 | 65.6 | 70.6 | 74.9 | 76.0 | 77.8 | 80.4 | 83.8 | 84.4 | 74.3 | 63.9 | 168.0 |
| 3150 | 49.7 | 58.3 | 61.0 | 66.1 | 70.2 | 71.8 | 73.7 | 76.0 | 78.7 | 79.3 | 68.1 | 55.6 | 167.5 |
| 4000 | 39.2 | 49.1 | 53.0 | 59.0 | 63.8 | 65.1 | 66.4 | 69.7 | 72.0 | 72.0 | 59.0 | 43.2 | 167.8 |
| 5000 | 25.5 | 36.9 | 43.2 | 48.9 | 54.6 | 56.3 | 57.6 | 60.9 | 63.5 | 62.0 | 47.0 | 25.8 | 169.2 |
| 6300 | 2.0 | 18.4 | 25.2 | 32.8 | 39.2 | 42.0 | 42.9 | 44.6 | 47.6 | 45.1 | 25.3 | 171.1 | 173.9 |
| 8000 | | | | | | | | | | | | | |
| 10000 | | | | | | | | | | | | | |
| 12500 | | | | | | | | | | | | | |
| 15000 | | | | | | | | | | | | | |
| 20000 | | | | | | | | | | | | | |
| 25000 | | | | | | | | | | | | | |
| 31500 | | | | | | | | | | | | | |
| 40000 | | | | | | | | | | | | | |
| 50000 | | | | | | | | | | | | | |
| 63000 | | | | | | | | | | | | | |
| 80000 | | | | | | | | | | | | | |
| GASPL | 88.1 | 91.5 | 90.6 | 94.1 | 95.4 | 95.3 | 97.0 | 101.4 | 107.9 | 111.2 | 108.6 | 104.2 | 97.8 |
| PNL | 91.9 | 95.7 | 95.6 | 99.6 | 102.0 | 102.4 | 103.9 | 107.8 | 113.4 | 115.7 | 111.2 | 104.8 | 97.1 |
| DBA | 81.2 | 85.0 | 85.1 | 89.1 | 91.4 | 91.8 | 93.5 | 97.7 | 102.3 | 104.2 | 98.8 | 92.2 | 83.9 |
| MODEL AREA = 131.5 SQ CM (20.4 SQ IN) | | | | | | | | | | | | | |
| SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) | | | | | | | | | | | | | |
| DIAMETER RATIO = 8.288 | | | | | | | | | | | | | |
| FREQ SHIFT = -9 | | | | | | | | | | | | | |
| NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514 | | | | | | | | | | | | | |
| VEHICL = ADH726 | TEST DATE = 03-17-82 | LOCAT = C41 ANECH CH | CONFIG = 2 | MODEL = AX | FLTVEL = 0. FPS | RELHUM = 69.7 PCT | NBFR = | PAMB HG = 29.55 | MIKE HT = | EXT CNFIG = SL | AE18 = | AE8 = | 20.4 SQ IN |
| IAPLHA = SB59 | DEG WIND VEL = | MPH = | NO | PWL AREA = FULL SPHERE | TAMB F = 53.00 | EXT CNFIG = SL | AE18 = | FPS AE8 = | 2416.6 FPS | V18 = | RPM = | XNH = | RPM |
| FNIN1 = | LBS XNL = | RPM = | XNHR = | RPM = | V8 = | 2416.6 FPS | AE18 = | FPS AE8 = | 20.4 SQ IN | 0. SQ IN | RPM = | CORR FAN SPEED = | RPM |
| RUNPT = 8 | TAPE = X02131 | TEST PT NO = 0213 | NC = | AE041 = | CORR FAN SPEED = | RPM = | | | | | | | |

ORIGINAL PAGE 13
OF POOR QUALITY

DATPROC - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARCIDENTIFICATION - MODEL 82F-400-0214 X0214C
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 86.4 85.0 82.8 83.4 82.8 79.7 84.4 87.9 89.9 96.5 96.9 95.2 95.2 132.8

63 87.1 87.1 88.6 88.4 87.9 85.0 90.6 89.8 93.0 97.1 97.7 94.8 96.9 134.4

80 89.1 93.0 86.9 90.2 90.3 91.6 90.8 91.4 94.0 93.0 96.2 101.2 102.6 136.5

100 88.2 92.8 86.7 90.3 91.6 92.0 91.6 91.0 92.4 93.6 94.4 101.8 105.0 139.3

125 85.5 87.3 86.8 90.8 92.0 91.6 91.0 92.4 93.6 94.4 101.8 105.0 106.9 139.3

160 83.9 81.6 85.2 86.5 86.7 87.8 87.8 89.4 90.1 90.7 94.1 99.6 106.2 113.7 147.2

200 84.6 84.2 83.7 86.0 87.8 88.2 88.6 89.8 91.5 94.9 101.1 108.7 114.1 114.8 112.2 148.5

250 83.2 86.5 84.5 87.8 88.1 89.2 93.6 94.2 98.9 105.1 115.7 118.6 115.2 107.9 151.9

315 83.8 85.8 84.0 87.9 89.4 90.1 90.7 94.1 99.6 106.1 108.0 118.3 120.0 113.6 153.4

400 85.8 86.8 85.1 88.9 90.5 89.8 91.5 94.9 101.1 108.7 114.1 114.8 115.2 107.9 151.9

500 86.9 88.2 86.2 89.0 91.6 92.8 96.8 103.0 111.8 116.5 115.6 109.8 150.1

630 86.8 89.8 88.1 91.6 93.2 93.6 94.2 98.9 105.1 115.7 118.6 115.2 107.9 151.9

800 90.7 90.7 93.5 93.5 94.7 96.1 100.8 108.0 118.3 120.0 113.6 113.6 153.4

1000 95.2 95.5 93.0 96.3 96.6 97.9 102.8 110.0 119.6 120.7 113.6 105.1 154.3

1250 95.0 99.3 97.5 99.8 100.2 98.5 99.4 104.3 111.5 120.4 120.5 112.4 154.7

1600 95.2 96.3 95.1 98.1 99.2 99.6 101.5 106.9 113.5 120.5 121.0 112.6 155.2

2000 96.7 97.6 95.2 97.6 99.2 99.6 101.5 106.9 113.5 120.5 121.0 112.6 155.2

2500 96.1 97.9 96.5 99.2 100.1 99.4 101.1 107.5 113.6 120.6 119.2 111.0 154.6

3150 95.2 96.8 95.3 98.8 99.9 100.7 101.9 107.6 113.9 118.3 118.0 110.4 153.3

4000 94.0 95.2 94.0 97.8 99.3 100.3 102.5 109.0 113.1 118.6 116.3 109.2 153.0

5000 93.4 95.0 93.2 96.2 98.7 99.6 101.8 107.3 112.6 115.9 115.3 107.8 151.4

6300 93.0 95.5 93.7 96.2 97.8 100.1 101.8 107.8 112.8 115.4 114.7 106.7 151.3

8000 92.6 94.3 92.3 95.9 98.1 99.2 100.6 105.8 111.7 113.8 111.6 104.8 149.9

10000 90.4 93.1 92.6 95.9 98.1 99.2 100.6 105.8 111.7 113.8 111.6 104.8 149.9

12500 88.2 89.9 89.9 93.7 96.4 98.2 99.2 104.4 108.0 111.2 108.9 102.2 148.6

16000 85.1 87.2 86.7 90.8 93.9 95.6 96.9 101.8 106.9 108.7 107.1 99.2 147.9

20000 84.7 83.4 83.2 87.7 91.2 92.4 94.8 99.7 103.8 106.1 104.2 96.2 146.9

25000 78.1 80.4 80.9 84.3 88.1 90.5 92.4 95.9 99.9 102.6 98.7 94.2 145.5

31500 73.6 76.8 76.1 80.0 83.8 85.9 87.9 92.7 96.6 100.7 96.6 89.7 145.9

40000 68.5 71.5 72.2 75.3 80.0 82.1 83.7 89.4 93.7 99.3 95.2 85.9 147.9

50000 64.1 67.1 66.5 69.5 74.2 77.2 78.4 84.5 91.0 96.9 92.5 81.1 149.5

63000 60.3 64.0 62.0 65.1 69.9 72.5 73.7 79.8 88.7 96.6 90.0 76.8 153.6

80000 59.9 63.1 62.3 65.3 70.0 72.3 73.7 79.8 88.7 96.6 90.0 76.8 160.8

CASPL 105.9 107.7 106.0 109.1 110.5 111.0 112.5 118.0 123.5 129.8 130.3 125.0 121.3 166.9

PWL 118.9 120.5 118.9 122.1 123.4 123.9 125.5 131.2 136.5 142.3 142.1 136.0 131.0

DBA 105.9 107.6 105.9 108.9 110.2 110.5 112.2 117.9 123.7 130.1 130.4 123.6 117.7

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH714 TEST DATE = 03-16-82 LOCAT = C41 ANECH CH CONFIO = 2 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 73.00 PAMB HG = 29.25 RELHUM = 65.6 PCT
WIND DIR = DEQ WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIO = ARC MIKE HT = NBFRFNINI = LBS XNL RPM XNHR = RPM V8 = 2424.6 FPS AE8 = 20.4 SQ IN
FNRAMB = LBS XNL RPM XNHR = RPM V18 = 2424.6 FPS AE18 = 0. SQ IN

RUNPT = 82F-400-0214 TAPE = X0214C TEST PT NO = 0214 NC = AE039 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0214 X0214F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

FREQ

50

63

100

125

160

150

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 200 | 90.4 | 92.5 | 89.1 | 90.9 | 89.6 | 89.2 | 88.5 | 91.0 | 96.2 | 101.8 | 106.4 | 109.3 | 111.1 | 143.3 |
| 250 | 90.4 | 92.5 | 89.1 | 90.9 | 89.6 | 89.2 | 88.5 | 91.0 | 96.2 | 101.8 | 106.4 | 109.3 | 111.1 | 143.3 |
| 315 | 90.4 | 92.5 | 89.1 | 90.9 | 89.6 | 89.2 | 88.5 | 91.0 | 96.2 | 101.8 | 106.4 | 109.3 | 111.1 | 143.3 |
| 400 | 91.4 | 92.2 | 89.0 | 91.3 | 92.3 | 90.1 | 90.2 | 92.2 | 101.4 | 109.8 | 114.3 | 114.9 | 112.5 | 148.8 |
| 500 | 93.0 | 92.9 | 89.8 | 92.2 | 93.5 | 92.0 | 92.1 | 95.1 | 103.3 | 113.5 | 116.7 | 115.5 | 112.9 | 150.7 |
| 630 | 94.5 | 94.5 | 91.1 | 93.4 | 95.2 | 94.0 | 93.3 | 96.8 | 106.3 | 116.3 | 118.4 | 115.9 | 113.6 | 152.4 |
| 800 | 96.4 | 96.2 | 93.1 | 95.1 | 96.7 | 95.2 | 95.2 | 98.6 | 108.7 | 118.0 | 119.8 | 116.2 | 115.1 | 153.8 |
| 1000 | 98.2 | 97.1 | 94.5 | 97.1 | 98.3 | 97.1 | 97.1 | 100.7 | 110.4 | 118.9 | 119.7 | 115.0 | 115.8 | 154.1 |
| 1250 | 100.2 | 99.8 | 96.5 | 98.9 | 102.2 | 99.3 | 98.8 | 102.4 | 111.6 | 118.6 | 121.1 | 115.2 | 115.8 | 154.8 |
| 1500 | 101.2 | 104.7 | 102.0 | 103.1 | 101.6 | 100.3 | 101.0 | 104.2 | 112.8 | 119.6 | 120.7 | 115.7 | 116.3 | 155.2 |
| 2000 | 102.7 | 102.7 | 100.2 | 101.9 | 101.7 | 100.8 | 101.4 | 105.4 | 113.3 | 120.1 | 119.6 | 116.7 | 114.9 | 154.9 |
| 2500 | 102.9 | 103.2 | 99.9 | 101.2 | 103.0 | 101.0 | 101.3 | 106.4 | 114.3 | 118.5 | 118.9 | 114.9 | 116.5 | 154.4 |
| 3150 | 103.3 | 104.3 | 101.7 | 103.3 | 103.2 | 102.8 | 102.5 | 107.1 | 114.0 | 119.1 | 117.4 | 113.5 | 115.2 | 154.2 |
| 4000 | 102.8 | 103.5 | 100.9 | 103.2 | 103.0 | 102.9 | 103.6 | 109.0 | 113.6 | 116.6 | 116.5 | 112.5 | 114.2 | 153.1 |
| 5000 | 101.5 | 101.9 | 99.7 | 102.4 | 102.7 | 102.6 | 103.3 | 107.9 | 113.8 | 116.0 | 115.8 | 111.1 | 112.9 | 152.6 |
| 6300 | 100.8 | 101.7 | 99.1 | 101.1 | 101.9 | 103.1 | 103.3 | 107.9 | 114.7 | 114.0 | 109.7 | 112.5 | 115.1 | 151.8 |
| 8000 | 100.3 | 102.1 | 99.3 | 100.9 | 102.2 | 102.0 | 101.9 | 106.4 | 111.2 | 114.1 | 108.7 | 109.6 | 115.1 | 151.0 |
| 10000 | 99.8 | 100.7 | 97.8 | 100.5 | 102.7 | 102.2 | 102.1 | 104.5 | 109.6 | 112.4 | 110.6 | 107.2 | 109.0 | 150.2 |
| 12500 | 100.1 | 101.5 | 99.6 | 101.3 | 101.0 | 101.2 | 100.7 | 104.5 | 108.9 | 110.3 | 109.1 | 104.4 | 106.2 | 149.6 |
| 16000 | 97.3 | 97.7 | 96.3 | 98.5 | 98.5 | 98.6 | 98.4 | 101.8 | 106.1 | 108.0 | 106.5 | 101.6 | 103.5 | 148.3 |
| 20000 | 93.8 | 94.7 | 92.7 | 95.3 | 95.8 | 96.2 | 96.3 | 99.7 | 103.0 | 105.2 | 101.8 | 100.5 | 100.6 | 147.1 |
| 25000 | 89.9 | 91.6 | 88.8 | 91.5 | 92.7 | 93.5 | 93.9 | 96.0 | 100.3 | 103.9 | 100.1 | 96.3 | 96.0 | 147.0 |
| 31500 | 85.5 | 86.5 | 85.5 | 87.3 | 88.4 | 88.9 | 89.3 | 92.7 | 98.3 | 103.4 | 99.6 | 93.3 | 92.4 | 148.5 |
| 40000 | 80.1 | 82.1 | 79.9 | 82.3 | 84.6 | 85.1 | 85.1 | 89.3 | 95.9 | 101.4 | 97.3 | 88.9 | 86.9 | 150.0 |
| 50000 | 74.6 | 76.4 | 75.6 | 77.1 | 78.8 | 80.2 | 79.9 | 84.5 | 94.6 | 102.0 | 95.7 | 85.5 | 82.4 | 153.9 |
| 63000 | 69.2 | 71.0 | 68.9 | 70.4 | 74.5 | 75.2 | 75.2 | 79.8 | 93.8 | 104.6 | 94.9 | 81.6 | 76.8 | 160.9 |
| 80000 | 64.0 | 66.4 | 62.9 | 64.5 | 68.7 | 69.3 | 69.6 | 75.4 | 84.1 | 94.8 | 85.1 | 71.8 | 67.0 | 158.0 |
| QASPL | 112.7 | 113.6 | 111.0 | 112.9 | 113.5 | 112.9 | 113.1 | 117.4 | 123.8 | 129.2 | 129.9 | 126.1 | 126.5 | 167.6 |
| PNL | 125.3 | 126.2 | 123.5 | 125.3 | 125.7 | 125.1 | 125.5 | 130.1 | 136.2 | 141.4 | 141.3 | 137.5 | 138.6 | |
| PNLT | 125.3 | 127.3 | 124.7 | 125.3 | 125.7 | 125.1 | 125.5 | 130.1 | 136.2 | 141.4 | 141.3 | 137.5 | 138.6 | |
| DBA | 185.8 | 188.0 | 185.1 | 186.7 | 190.6 | 191.3 | 191.4 | 196.8 | 207.3 | 217.9 | 208.3 | 195.3 | 190.9 | |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH714 TEST DATE = 03-16-82 LOCAT = C41 ANECH CH CNF10 = 2 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 73.00 PAMB HG = 29.25 RELHUM = 65.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNF10 = ARC MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2424.6 FPS AEB = 20.4 SQ IN
FNAMB = LBS XNL RPM XNH XNHR = RPM V18 = 2424.6 FPS AEB = 0. SQ IN

RUNPT = 100-0214 TAPE = X0214F TEST PT NO = 0214 NC = AE039 CORR FAN SPEED = RPM

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL BZF-ZER-0215 X0215C
BACKGROUND 000000000000

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 84.7 83.7 81.7 83.3 83.9 84.0 86.4 86.5 94.5 94.6 94.4 94.1 95.8 132.4

63 88.2 86.8 86.8 91.3 91.2 90.8 89.2 89.3 98.0 98.4 98.0 97.9 97.3 136.2

80 90.3 93.8 88.6 91.6 92.0 92.1 92.0 96.7 97.1 96.7 98.8 98.8 102.5 138.8

100 88.8 94.6 90.1 93.7 94.7 93.6 94.2 96.7 97.1 96.7 98.8 102.5 103.9 138.8

125 85.9 88.9 90.2 93.2 94.5 93.9 93.8 94.7 96.7 97.7 105.1 107.0 108.0 141.5

150 85.5 87.1 87.8 89.1 89.7 90.1 91.7 93.1 96.3 100.2 105.5 108.2 111.1 142.7

160 85.5 87.6 87.3 90.4 92.7 92.3 92.7 96.4 101.6 102.2 107.5 111.2 113.1 145.2

200 87.8 87.6 90.4 92.7 92.3 92.7 96.4 101.6 102.2 107.5 111.2 113.1 145.2

250 87.5 91.1 89.6 92.6 92.6 92.6 95.0 98.9 101.8 107.9 112.8 115.7 115.4 149.0

315 88.6 90.6 88.6 92.4 94.3 93.9 95.0 98.2 104.9 109.7 114.6 116.5 115.9 150.4

400 89.8 93.7 89.8 94.5 96.3 96.3 96.3 99.2 106.9 113.4 117.8 118.0 115.9 152.3

500 89.8 93.7 89.8 94.5 96.3 96.3 96.3 99.2 106.9 113.4 117.8 118.0 115.9 152.3

630 92.8 95.1 92.4 95.6 96.7 96.6 96.7 103.1 110.9 119.2 120.1 118.5 115.6 154.8

800 96.9 98.2 95.2 98.0 98.2 100.4 106.5 113.0 120.6 121.2 118.9 116.8 115.0 156.0

1000 102.4 104.2 98.6 101.3 101.1 100.2 101.6 106.5 114.8 122.1 121.7 119.1 116.0 156.9

1250 99.7 105.2 103.3 104.8 104.1 102.3 103.1 107.8 115.3 122.3 122.0 117.6 114.9 157.1

1500 102.2 101.0 99.8 102.3 102.9 102.6 103.9 108.7 116.2 122.5 119.8 115.3 111.8 156.5

1600 102.2 101.0 99.8 102.3 102.9 102.6 103.9 108.7 116.2 122.5 119.8 115.3 111.8 156.5

2000 103.1 103.8 100.7 101.8 102.9 102.6 103.9 109.8 116.2 122.5 119.8 115.3 111.8 156.5

2500 101.9 102.9 101.5 103.5 104.3 103.2 104.9 110.2 115.6 122.1 118.2 113.7 110.5 155.8

3150 101.0 103.1 101.1 103.6 104.2 104.0 105.9 110.4 116.2 120.8 117.3 112.7 110.0 155.1

4000 99.8 101.0 99.8 102.8 103.9 103.9 106.0 111.3 115.7 119.9 116.1 111.2 108.2 154.5

5000 98.7 100.1 98.8 101.8 103.3 103.7 105.6 110.2 114.4 117.8 114.4 109.7 105.9 153.0

6300 96.7 99.4 98.3 100.8 102.8 103.2 105.3 110.7 114.2 117.3 113.9 108.6 105.1 152.9

80000 58.2 63.7 63.5 63.1 68.8 70.1 72.6 77.1 84.0 92.9 81.7 73.9 63.5 156.4

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VEHICLE = ADH727 TEST DATE = 03-17-82 LOCAL = C41 ANECH CH CONFIG = 2 MODEL = AX FLVEL = 0. FPS
WIND DIR = SB59 DEG WIND VEL = NO MPH EXT DIST = 40.0 FT EXT CONFIG = ARC TAMB F = 53.00 PAMB HG = 29.55 RELHUM = 69.7 PCT
FINI = LBS XNL RPM XNH XNHR = RPM V8 = 2426.4 FPS AEB = 20.4 SQ IN
FNAMB = LBS XNLR = RPM XNHR = RPM V18 = 2426.4 FPS AEB = 20.4 SQ IN
CORR FAN SPEED = RPM

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514
DBA 111.8 113.4 111.3 113.6 114.4 114.0 115.9 120.7 126.4 132.1 130.6 127.2 124.5
PNLT 125.5 128.1 125.5 126.7 127.6 127.3 129.2 133.9 139.2 144.2 142.1 138.7 136.3
CASPL 111.4 113.1 111.2 113.6 114.6 114.4 116.2 120.8 126.3 131.9 130.9 128.4 126.4 168.1

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0215 X0215F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.
PWL

50 84.7 83.7 81.7 83.3 83.9 84.0 86.4 86.5 94.5 94.6 94.4 94.1 95.8 132.4
63 88.2 86.8 88.8 91.3 91.2 90.8 89.2 89.3 98.0 98.4 98.0 97.9 97.3 136.2
80 90.3 88.6 91.6 92.1 92.0 93.4 95.6 92.4 97.0 98.2 99.4 98.0 97.4 136.0
100 88.8 94.6 90.1 93.7 94.7 93.6 94.2 96.7 97.1 96.7 98.8 102.5 103.9 138.8
125 85.9 88.9 90.2 93.2 94.5 93.9 93.8 94.7 96.7 97.7 105.1 107.0 108.0 141.5
160 85.5 87.1 87.8 89.1 89.7 90.1 91.7 93.1 96.3 100.2 105.5 108.2 111.1 142.7
200 87.8 87.6 87.3 89.4 92.7 92.3 92.7 96.4 101.6 102.2 107.5 111.2 113.1 145.2
250 87.5 91.1 89.6 92.6 92.5 92.6 95.0 98.9 101.8 107.9 112.8 115.7 115.4 149.0
315 88.6 90.6 88.6 92.4 94.3 93.9 95.0 98.2 104.9 109.7 114.6 116.5 116.9 150.4
400 89.8 93.7 94.5 93.9 96.3 99.2 106.9 113.4 117.8 118.0 115.9 152.3
500 90.7 93.0 91.0 94.0 95.6 95.5 96.9 101.0 108.2 116.1 119.4 118.4 115.8 153.5
630 92.8 95.1 92.4 95.6 96.7 96.6 98.7 103.1 110.9 119.2 120.1 118.5 115.6 154.8
800 96.9 98.2 95.2 98.0 98.6 100.4 105.0 113.0 120.6 121.2 118.9 116.8 116.0 156.0
1000 102.4 104.2 98.8 101.3 101.1 100.2 101.6 106.5 114.8 122.1 121.7 119.1 116.0 156.9
1250 99.7 105.2 103.3 104.8 104.1 102.3 103.1 107.8 115.3 122.3 122.0 117.6 114.9 157.1
1600 102.2 101.0 99.8 102.3 102.9 102.0 103.9 108.7 116.0 121.6 113.7 113.7 115.5
2000 103.1 103.8 102.7 101.8 102.6 102.9 109.8 112.2 115.6 122.1 118.2 113.7 110.5 155.8
2500 101.9 102.9 101.5 103.5 104.3 103.2 104.9 110.2 115.6 122.1 118.2 113.7 110.5 155.8
3150 101.0 103.1 101.1 103.6 104.2 104.0 105.9 110.4 116.2 120.8 117.3 112.7 110.0 155.1
4000 99.8 101.0 99.8 102.8 103.9 103.7 105.6 110.2 114.4 117.8 114.4 109.7 105.9 153.0
5000 98.7 100.1 98.8 103.3 103.7 105.6 110.2 114.4 117.8 114.4 109.7 105.9 153.0
6300 96.7 99.4 98.3 100.8 102.8 103.2 105.3 110.7 114.2 117.3 113.9 108.6 105.1 152.9
8000 95.9 97.8 97.1 100.2 102.5 102.8 104.5 108.8 113.3 115.6 112.4 106.8 103.7 151.8
10000 94.0 96.6 96.8 100.1 102.0 102.3 104.8 108.5 111.7 115.6 111.7 105.7 101.7 151.8
12500 92.0 94.5 94.5 97.8 100.5 101.5 102.6 106.5 109.9 113.6 110.0 104.3 98.7 150.8
16000 88.8 92.3 91.8 95.6 98.7 98.9 101.5 104.8 108.7 110.7 107.7 101.2 95.7 149.9
20000 85.4 89.5 88.9 92.1 95.8 96.3 98.2 102.3 106.0 109.3 105.2 98.3 92.6 149.4
25000 82.1 85.8 86.1 88.9 92.9 94.5 96.2 99.3 103.1 107.4 100.8 96.2 88.9 149.3
31500 78.1 82.4 81.7 85.8 89.1 89.9 92.4 96.5 100.0 105.6 97.9 92.5 84.8 150.0
40000 73.7 77.7 78.4 80.6 85.3 86.0 88.5 93.2 96.9 103.1 95.7 89.3 81.2 151.2
50000 68.2 73.0 75.6 79.7 82.0 83.4 86.4 90.1 94.3 100.1 92.0 85.4 75.7 152.4
63000 62.5 67.9 70.0 74.8 76.5 78.2 82.9 86.9 89.4 97.5 87.9 78.8 69.2 154.4
80000 58.2 63.7 67.9 72.7 75.6 77.1 82.6 84.0 84.0 92.9 81.7 73.9 63.5 156.4

GASPL 111.4 113.1 111.2 113.6 114.6 114.4 116.2 120.8 126.3 131.9 130.9 128.4 126.4 168.1
PWL 124.1 125.9 124.1 126.7 127.6 127.3 129.2 133.9 139.2 144.2 142.1 138.7 136.3
PNLT 125.5 128.1 125.5 126.7 127.6 127.3 129.2 133.9 139.2 144.2 142.1 138.7 136.3
DBA 179.7 185.1 184.9 185.5 190.8 192.3 194.4 199.0 205.7 214.3 203.6 195.7 185.6

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH727 TEST DATE = 03-17-82
IAPLHA = SB59 LEGA = NO
DEG WIND VEL = MPH
EXT AREA = FULL SPHERE
PWL AREA = 40.0 FT
EXT CNFIG = ARC
TAMB F = 53.00
PAMB HG = 29.55
RELHUM = 69.7 PCT
FLTVEL = 0. FPS
MODEL = AX
MIKE HT = NBFR

FNINI = LBS XNL RPM XNH RPM V8 = 2426.4 FPS AEB = 20.4 SO IN
FNRAMB = LBS XNL RPM XNH RPM V8 = 2426.4 FPS AEB = 20.4 SO IN

TEST PT NO = 0215 NC = AE041 CORR FAN SPEED = RPM

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301

HONEYWELL PAGE PRINTING SYSTEM- P1188-02

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

DATPRC - FLIPLAN

IDENTIFICATION - 82F-ZER-0215 X02151

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

63 69.6 72.8 73.4 72.5 76.3 78.3 79.5 83.3 89.8 96.5 98.3 95.1 88.9 171.9

80 71.6 75.5 73.8 77.8 79.3 81.3 85.3 92.3 99.6 98.9 95.1 88.9 173.2

100 75.7 76.6 76.7 80.2 81.2 80.9 82.9 87.2 94.4 100.9 95.4 89.9 174.3

125 81.1 84.5 80.1 83.4 83.6 82.9 84.1 88.6 96.1 102.3 100.4 95.5 88.9 175.3

160 78.2 85.3 84.5 86.7 86.5 84.6 85.5 89.7 96.5 102.4 100.4 93.8 87.4 175.4

200 80.4 80.9 80.8 84.1 85.1 84.4 86.1 90.5 97.1 101.5 99.5 92.5 85.7 174.9

250 81.0 83.4 81.5 83.4 84.9 84.7 87.3 91.4 97.0 102.1 97.7 90.7 83.2 174.8

315 79.4 82.2 81.9 84.8 86.1 85.1 86.6 91.5 96.1 101.4 95.6 88.5 81.0 174.2

400 78.0 81.9 81.2 84.6 85.6 85.6 87.3 91.3 96.3 99.6 94.3 86.9 79.5 173.5

500 76.2 79.5 79.6 83.5 85.1 85.2 87.2 92.0 95.5 98.4 92.6 84.7 76.8 172.9

630 74.7 78.1 78.3 82.2 84.2 84.8 86.5 90.6 93.9 95.9 90.4 82.5 73.4 171.4

800 72.2 77.1 77.5 80.9 83.4 84.0 85.9 90.8 93.4 95.0 89.4 80.8 71.5 171.2

1000 71.0 75.2 76.0 80.1 83.0 83.5 85.0 88.7 92.2 93.0 87.4 78.3 68.9 170.2

1250 68.6 73.6 75.5 79.8 82.4 82.8 85.2 88.3 90.4 92.6 86.3 76.3 65.4 170.2

1500 65.7 71.0 72.8 77.2 80.6 81.8 82.6 85.9 88.2 90.1 83.7 68.6 60.2 169.2

2000 61.6 68.2 69.7 74.8 78.6 79.0 81.4 84.0 86.6 88.5 80.4 68.8 54.1 168.3

2500 56.3 64.1 65.9 70.6 75.2 76.0 77.5 80.9 83.0 83.6 76.1 63.1 46.1 167.7

3150 49.7 58.0 61.2 65.8 70.9 72.8 74.2 76.2 78.2 79.6 68.4 56.1 34.0 167.7

4000 39.5 49.9 53.0 59.5 64.1 65.4 67.4 70.2 71.3 73.0 59.2 43.5 15.4 168.3

5000 25.2 37.6 43.5 48.9 55.4 56.5 58.6 61.4 62.0 63.0 47.2 26.5 170.7

6300 2.0 18.7 25.7 33.1 39.7 42.7 43.4 45.6 47.4 45.8 25.8 172.7

8000 8.3 16.6 19.5 20.0 21.2 21.1 18.4 172.7

10000 12500 16000

20000 25000 31500 40000 50000 63000 80000

OASPL 88.8 92.3 91.3 94.5 95.8 95.6 97.4 101.6 106.6 111.3 108.9 103.7 97.5 186.3

PWL 92.7 96.5 96.4 100.1 102.3 102.8 104.5 108.0 112.2 115.8 111.5 104.3 96.7

PNL 93.7 97.6 97.0 100.6 102.3 103.3 104.5 108.0 112.8 116.4 112.5 104.3 96.7

DBA 81.9 85.7 85.8 89.5 91.8 92.2 94.0 97.9 101.3 104.1 99.1 91.5 83.9

MODEL AREA = 131.5 SQ CM (20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH727 TEST DATE = 03-17-82
IAPLHA = SB59 IEGA / = NO
WIND DIR = DEG WIND VEL = MPH
EXT DIST = 2400.0 FT
PWL AREA = FULL SPHERE
LOCAT = C41 ANECH CH
CONFIG = 2
MODEL = AX
PAMB HG = 29.55
RELHUM = 69.7 PCT
FLTVEL = 0. FPS
NBFR =

FNIN1 = LBS XNL RPM XNH XNHR = RPM VI8 = 2426.4 FPS AE8 = 20.4 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM VI8 = 2426.4 FPS AE8 = 20.4 SQ IN

RUNPT = ZER-0215 TAPE = X02151 TEST PT NO = 0215 NC = AE041 CORR FAN SPEED = RPM

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0216
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160

PWL

| | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 90.1 | 88.6 | 85.9 | 85.4 | 85.9 | 95.3 | 95.3 | 99.2 | 103.8 | 105.4 | 99.6 | 96.2 | 140.3 |
| 63 | 90.1 | 89.6 | 90.7 | 91.2 | 89.6 | 90.0 | 95.6 | 98.0 | 98.2 | 103.3 | 103.5 | 98.4 | 97.7 |
| 80 | 90.6 | 93.7 | 88.0 | 91.3 | 90.6 | 92.1 | 93.7 | 97.5 | 98.2 | 100.6 | 102.0 | 99.4 | 99.1 |
| 100 | 90.3 | 93.6 | 88.2 | 91.0 | 92.7 | 92.5 | 93.7 | 98.1 | 98.6 | 101.7 | 103.0 | 102.0 | 103.1 |
| 125 | 88.6 | 89.6 | 88.6 | 91.6 | 93.2 | 93.1 | 93.8 | 97.2 | 97.9 | 101.7 | 105.8 | 107.2 | 141.6 |
| 160 | 87.7 | 86.2 | 87.6 | 88.5 | 87.6 | 88.5 | 91.2 | 96.4 | 96.8 | 102.4 | 106.3 | 109.9 | 142.2 |
| 200 | 88.2 | 88.0 | 88.3 | 88.9 | 90.5 | 92.4 | 97.9 | 99.8 | 102.9 | 106.0 | 108.7 | 111.9 | 143.7 |
| 250 | 87.7 | 89.0 | 86.2 | 89.3 | 88.9 | 91.5 | 93.4 | 98.6 | 99.6 | 105.4 | 112.7 | 112.9 | 146.3 |
| 315 | 88.3 | 88.1 | 85.6 | 88.9 | 90.5 | 91.3 | 93.5 | 98.4 | 100.9 | 107.4 | 112.3 | 114.2 | 147.8 |
| 400 | 89.3 | 90.3 | 88.3 | 89.6 | 90.7 | 91.6 | 93.2 | 99.7 | 102.6 | 109.9 | 114.1 | 115.0 | 148.9 |
| 500 | 90.4 | 90.5 | 88.0 | 90.5 | 92.3 | 93.2 | 94.9 | 100.0 | 104.0 | 112.3 | 117.0 | 115.4 | 150.4 |
| 630 | 91.8 | 92.6 | 89.3 | 92.0 | 93.2 | 95.1 | 96.2 | 102.1 | 106.1 | 115.7 | 118.6 | 115.5 | 152.0 |
| 800 | 93.4 | 93.0 | 92.0 | 94.0 | 94.6 | 95.7 | 98.4 | 103.3 | 108.8 | 117.8 | 120.0 | 114.6 | 153.3 |
| 1000 | 96.2 | 96.2 | 94.0 | 96.8 | 96.9 | 97.3 | 99.4 | 105.6 | 110.8 | 119.8 | 121.0 | 113.6 | 154.6 |
| 1250 | 97.2 | 100.0 | 98.0 | 100.1 | 100.7 | 99.0 | 100.4 | 106.6 | 112.3 | 120.4 | 121.0 | 112.7 | 155.0 |
| 1600 | 97.4 | 98.5 | 97.1 | 99.3 | 99.9 | 100.3 | 101.9 | 107.7 | 114.1 | 119.9 | 121.5 | 112.4 | 155.2 |
| 2000 | 98.4 | 100.1 | 97.7 | 99.1 | 100.2 | 101.1 | 103.0 | 108.1 | 114.5 | 120.8 | 121.0 | 112.3 | 155.5 |
| 2500 | 97.9 | 99.4 | 98.0 | 100.5 | 101.6 | 100.7 | 102.1 | 109.0 | 114.4 | 120.9 | 119.9 | 111.7 | 155.2 |
| 3150 | 96.5 | 97.5 | 97.1 | 100.3 | 101.7 | 101.2 | 102.9 | 109.3 | 114.7 | 119.3 | 118.5 | 104.9 | 154.1 |
| 4000 | 95.2 | 96.5 | 95.2 | 98.8 | 100.6 | 101.1 | 103.2 | 110.0 | 113.9 | 118.3 | 116.6 | 109.9 | 153.2 |
| 5000 | 94.6 | 96.2 | 94.0 | 97.7 | 99.7 | 100.4 | 102.8 | 108.6 | 113.3 | 116.9 | 115.8 | 108.3 | 152.2 |
| 6300 | 94.0 | 96.0 | 94.7 | 97.2 | 99.3 | 100.6 | 102.3 | 108.3 | 112.5 | 115.9 | 114.2 | 107.5 | 151.5 |
| 8000 | 93.4 | 96.9 | 93.5 | 96.9 | 99.7 | 99.8 | 101.7 | 106.8 | 112.5 | 114.8 | 113.3 | 105.3 | 151.0 |
| 10000 | 91.7 | 93.6 | 93.4 | 96.9 | 99.4 | 99.7 | 101.9 | 106.6 | 110.7 | 114.1 | 111.8 | 104.3 | 150.5 |
| 12500 | 88.9 | 91.1 | 90.4 | 94.4 | 97.7 | 98.4 | 99.7 | 104.2 | 109.2 | 111.2 | 109.1 | 103.0 | 149.0 |
| 16000 | 86.4 | 88.2 | 87.2 | 91.8 | 95.1 | 96.9 | 98.4 | 102.8 | 107.6 | 109.9 | 107.1 | 99.9 | 148.4 |
| 20000 | 86.0 | 86.4 | 86.4 | 92.2 | 94.0 | 95.6 | 100.2 | 104.5 | 107.1 | 103.4 | 96.7 | 91.3 | 147.5 |
| 25000 | 78.9 | 82.2 | 81.4 | 85.3 | 89.1 | 91.2 | 92.9 | 96.7 | 100.7 | 101.1 | 98.7 | 93.0 | 145.3 |
| 31500 | 75.9 | 77.6 | 76.6 | 81.0 | 85.0 | 86.9 | 89.6 | 92.7 | 97.1 | 99.4 | 96.6 | 83.0 | 145.6 |
| 40000 | 72.1 | 73.5 | 73.2 | 76.6 | 81.3 | 84.6 | 85.2 | 89.9 | 94.7 | 99.3 | 95.2 | 86.2 | 148.2 |
| 50000 | 67.1 | 73.6 | 70.7 | 76.2 | 81.2 | 83.4 | 84.8 | 89.5 | 96.7 | 93.0 | 82.1 | 74.5 | 149.9 |
| 63000 | 65.9 | 77.2 | 64.6 | 66.8 | 71.1 | 79.3 | 84.5 | 80.0 | 89.9 | 91.0 | 79.8 | 69.5 | 154.4 |
| 80000 | 64.7 | 71.7 | 67.2 | 64.9 | 67.2 | 74.1 | 75.2 | 76.7 | 87.8 | 99.2 | 77.3 | 64.7 | 162.3 |
| QASPL | 107.8 | 109.2 | 107.5 | 110.1 | 111.6 | 111.9 | 113.8 | 119.4 | 124.4 | 130.1 | 125.2 | 121.9 | 167.6 |
| PWL | 120.7 | 122.1 | 120.5 | 123.4 | 124.2 | 124.8 | 126.7 | 132.8 | 137.4 | 142.8 | 142.7 | 136.4 | 131.6 |
| DBA | 107.6 | 109.0 | 107.4 | 110.0 | 111.3 | 111.4 | 113.3 | 119.3 | 124.5 | 130.4 | 123.6 | 123.8 | 118.3 |

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH713 TEST DATE = 03-16-82 LOCAT = C41 ANECH CH CONFID = 2 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 73.00 PAMB HG = 29.25 RELHUM = 65.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFID = ARC MIKE HT = NBFR

FNINI = LBS XNL = RPM XNHR = V8 = 2431.7 FPS AE8 = 20.4 SO IN
FNRAMB = LBS XNL = RPM XNHR = V8 = 2431.7 FPS AE8 = 20.4 SO IN

RUNPT = 82F-400-0216 TAPE = X0216C TEST PT NO = 0216 NC = AE039 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

ANGLES MEASURED FROM INLET, DEGREES

IDENTIFICATION - 82F-400-0216 X0216F

PWL

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0216 X02161

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREQ 50 60 70 80 90 100 110 120 130 140 150 160

167.5 167.2 170.9 172.4 173.0 173.3 173.9 174.0 174.5 175.0 175.5 176.0 176.5 177.0 177.5 178.0 178.5 179.0 179.5 180.0

180.9 180.9 180.9 180.9 180.9 180.9 180.9 180.9 180.9 180.9 180.9 180.9 180.9 180.9 180.9 180.9 180.9 180.9 180.9 180.9

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0219 X0219C

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 84.7 | 84.0 | 84.7 | 83.0 | 87.4 | 84.5 | 83.1 | 86.8 | 94.2 | 94.3 | 95.4 | 95.4 | 95.3 | 132.6 |
| 63 | 88.5 | 88.0 | 89.3 | 92.1 | 92.5 | 93.1 | 93.0 | 93.8 | 94.2 | 94.9 | 96.9 | 97.7 | 105.4 | 136.9 |
| 80 | 90.5 | 94.6 | 88.3 | 92.1 | 92.5 | 93.1 | 93.0 | 93.9 | 95.8 | 93.7 | 97.8 | 103.3 | 104.4 | 139.2 |
| 100 | 89.6 | 94.8 | 89.4 | 93.7 | 94.7 | 93.4 | 94.0 | 97.4 | 97.4 | 99.6 | 103.3 | 104.4 | 139.2 | |
| 125 | 86.9 | 88.6 | 89.2 | 93.2 | 94.5 | 94.2 | 93.8 | 94.9 | 96.9 | 97.7 | 105.4 | 107.5 | 141.8 | |
| 150 | 86.3 | 85.1 | 87.3 | 89.6 | 90.2 | 90.3 | 92.0 | 93.4 | 97.1 | 100.7 | 105.8 | 111.6 | 143.1 | |
| 200 | 88.0 | 87.8 | 86.8 | 90.9 | 92.7 | 93.1 | 92.7 | 96.4 | 102.1 | 103.2 | 108.0 | 112.2 | 145.8 | |
| 250 | 88.0 | 91.1 | 89.3 | 92.6 | 92.7 | 93.1 | 95.0 | 99.1 | 102.6 | 108.4 | 113.3 | 116.0 | 149.3 | |
| 315 | 88.6 | 90.6 | 88.4 | 92.2 | 94.5 | 94.4 | 95.5 | 98.4 | 105.6 | 110.7 | 115.6 | 117.3 | 151.1 | |
| 400 | 90.3 | 92.4 | 89.6 | 93.7 | 95.0 | 94.4 | 96.5 | 99.4 | 107.1 | 114.4 | 117.8 | 118.5 | 152.7 | |
| 500 | 90.7 | 93.7 | 90.0 | 94.3 | 95.9 | 95.7 | 96.6 | 101.8 | 109.2 | 117.1 | 119.4 | 118.6 | 153.9 | |
| 630 | 92.5 | 94.8 | 92.4 | 96.4 | 96.7 | 97.4 | 99.0 | 103.9 | 111.6 | 119.9 | 120.6 | 119.2 | 155.4 | |
| 800 | 96.9 | 96.0 | 94.5 | 97.8 | 98.9 | 98.5 | 101.1 | 105.3 | 113.7 | 121.8 | 120.9 | 118.9 | 156.4 | |
| 1000 | 102.4 | 104.2 | 99.3 | 101.5 | 100.7 | 102.1 | 106.8 | 115.5 | 123.1 | 122.0 | 118.9 | 115.8 | 157.5 | |
| 1250 | 100.5 | 104.7 | 102.8 | 105.3 | 104.9 | 102.3 | 103.1 | 108.3 | 116.3 | 123.3 | 121.5 | 117.6 | 157.5 | |
| 1600 | 103.0 | 101.8 | 99.3 | 102.1 | 103.0 | 103.9 | 107.7 | 117.0 | 122.4 | 122.3 | 119.8 | 114.8 | 157.1 | |
| 2000 | 103.9 | 104.3 | 101.0 | 102.8 | 103.4 | 103.1 | 105.3 | 109.6 | 117.0 | 123.5 | 119.8 | 111.1 | 157.1 | |
| 2500 | 102.6 | 103.4 | 101.2 | 104.5 | 104.8 | 103.2 | 104.9 | 110.5 | 116.6 | 123.4 | 118.2 | 113.2 | 156.7 | |
| 3150 | 101.8 | 103.1 | 100.8 | 104.6 | 104.5 | 104.6 | 104.6 | 106.0 | 111.6 | 116.4 | 120.9 | 115.9 | 154.9 | |
| 4000 | 100.3 | 101.8 | 99.8 | 103.3 | 104.6 | 104.6 | 104.6 | 106.0 | 111.6 | 116.4 | 120.9 | 115.9 | 154.9 | |
| 5000 | 98.7 | 100.6 | 98.6 | 102.3 | 103.8 | 103.5 | 106.1 | 109.9 | 114.9 | 119.1 | 114.6 | 109.9 | 153.7 | |
| 6300 | 96.9 | 99.7 | 98.6 | 101.6 | 103.0 | 103.7 | 105.5 | 110.9 | 114.7 | 118.3 | 113.9 | 108.9 | 153.4 | |
| 8000 | 95.9 | 98.1 | 96.8 | 101.2 | 102.7 | 103.0 | 104.3 | 108.8 | 112.4 | 116.8 | 111.2 | 105.2 | 152.5 | |
| 10000 | 94.5 | 97.3 | 96.8 | 100.6 | 102.5 | 103.0 | 104.3 | 108.5 | 112.4 | 116.8 | 111.2 | 105.2 | 152.5 | |
| 12500 | 92.0 | 94.5 | 95.3 | 98.3 | 100.5 | 101.5 | 103.1 | 106.3 | 110.1 | 114.6 | 109.3 | 104.0 | 151.2 | |
| 16000 | 89.3 | 92.1 | 92.8 | 95.8 | 98.7 | 99.4 | 101.2 | 104.8 | 109.2 | 112.9 | 108.0 | 101.2 | 151.0 | |
| 20000 | 85.7 | 89.5 | 89.6 | 93.1 | 96.3 | 97.1 | 98.7 | 102.6 | 106.0 | 111.0 | 104.4 | 99.0 | 150.3 | |
| 25000 | 82.4 | 86.1 | 86.4 | 89.2 | 85.8 | 89.3 | 90.4 | 92.2 | 96.5 | 100.5 | 92.8 | 85.5 | 150.4 | |
| 31500 | 78.6 | 82.4 | 88.9 | 81.1 | 85.6 | 88.5 | 88.0 | 93.2 | 98.4 | 104.9 | 96.4 | 88.8 | 152.7 | |
| 40000 | 73.4 | 77.7 | 88.9 | 77.7 | 88.9 | 86.6 | 82.0 | 87.4 | 94.1 | 101.6 | 92.7 | 84.9 | 153.5 | |
| 50000 | 68.7 | 72.5 | 86.7 | 75.4 | 80.0 | 82.0 | 83.2 | 87.4 | 94.1 | 101.6 | 92.7 | 84.9 | 153.5 | |
| 63000 | 62.3 | 68.1 | 86.9 | 69.8 | 74.8 | 76.3 | 77.9 | 82.9 | 89.1 | 97.3 | 88.1 | 79.1 | 154.5 | |
| 80000 | 57.5 | 63.2 | 85.5 | 63.1 | 69.1 | 70.3 | 72.1 | 77.4 | 84.0 | 93.4 | 83.0 | 73.7 | 157.4 | |

ORIGINAL PAGE IS
OF POOR QUALITY

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH728
TEST DATE = 03-17-82
LOCAT = C41 ANECH CH
CONFID = 2
MODEL = AX
FLTVEL = 0. FPS
RELHUM = 69.7 PCT
NBFR =

WIND DIR =
IAPLHA = SB59
LEG A = NO
DEG WIND VEL = MPH
EXT DIST = 40.0 FT
PWL AREA = FULL SPHERE
TAMB F = 53.00
EXT CNFID = ARC
MIKE HT =
PAMB HG = 29.55
MODEL = AX
FLTVEL = 0. FPS
RELHUM = 69.7 PCT
NBFR =

QASPL 111.9 113.3 111.2 114.2 115.1 114.8 116.4 121.0 126.9 132.9 131.0 128.6 126.5 168.7

PNLT 124.7 126.1 129.4 128.3 127.8 129.2 134.1 139.7 145.3 142.2 138.6 136.1

DBA 112.3 113.6 111.1 114.2 114.9 114.4 116.0 120.9 127.1 133.1 130.6 127.1 124.4

FININI =
LBS XNL
RPM
XNH
RPM
XNHR
=

RUNPT = 827
ER-0219
TAPE
= X0219C
TEST PT NO = 0219
NC
= AE041
CORR FAN SPEED =
RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0219 X0219F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 84.7 84.0 84.7 83.0 87.4 84.5 83.1 86.8 94.2 94.3 95.4 95.3 132.6

63 88.5 88.0 89.3 91.8 92.7 91.3 93.7 90.1 98.5 98.1 98.5 98.6 136.9

80 90.5 94.6 88.3 92.1 92.5 93.1 93.0 95.8 93.7 97.8 99.5 100.6 136.8

100 89.6 89.4 89.7 93.7 94.7 93.4 94.0 97.4 97.4 99.6 103.3 104.4 139.2

125 86.9 86.6 89.2 93.2 94.5 94.2 93.8 94.9 96.9 97.7 105.4 107.5 141.8

160 86.3 85.1 87.3 89.6 90.2 90.3 92.0 93.4 97.1 100.7 105.8 108.5 143.1

200 88.0 87.8 89.9 90.9 92.7 93.1 92.7 96.4 102.1 103.2 108.0 112.2 145.8

250 88.0 91.1 89.3 92.6 92.7 93.1 95.0 99.1 102.6 108.4 113.3 116.0 149.3

315 88.6 90.6 88.4 92.2 94.5 94.4 95.5 98.4 105.6 110.7 115.6 117.4 151.1

400 90.3 92.4 89.6 93.7 95.0 94.4 96.5 99.4 107.1 114.4 117.8 118.5 152.7

500 90.7 93.7 90.0 94.3 95.9 95.7 96.6 101.8 109.2 117.1 119.4 118.6 153.9

630 92.5 94.8 92.4 96.4 96.7 97.4 99.0 103.9 111.6 119.9 120.6 119.2 155.4

800 96.9 96.0 94.5 97.8 98.9 98.5 101.1 105.3 113.7 121.8 120.9 116.8 156.4

1000 102.4 104.2 99.3 101.5 101.7 102.7 106.8 115.5 123.1 122.0 118.9 115.8 157.5

1250 100.5 104.7 102.8 105.3 104.9 102.3 103.1 108.3 116.3 123.3 121.5 117.6 157.5

1500 103.0 101.8 99.3 102.1 102.7 103.0 103.9 109.7 117.0 122.4 121.2 115.7 156.9

2000 103.9 104.3 101.0 102.8 103.4 103.1 105.3 109.6 117.0 123.5 119.8 113.2 157.1

2500 102.6 103.4 101.2 104.5 104.8 103.2 104.9 110.5 116.6 123.4 118.2 113.2 156.7

3150 101.8 103.1 100.8 104.6 105.4 104.5 105.9 110.4 116.7 121.3 117.3 112.2 155.5

4000 100.3 101.8 99.8 103.3 104.6 104.6 106.0 111.6 115.4 120.9 114.6 109.9 154.9

5000 98.7 100.6 98.6 102.3 103.8 103.7 105.5 110.9 114.7 118.3 113.9 108.9 153.4

6300 96.9 99.7 98.6 101.6 103.0 103.7 105.5 110.9 114.7 118.3 113.9 108.9 153.4

8000 95.9 98.1 96.8 101.2 102.7 103.0 104.5 108.8 113.3 116.9 112.1 106.6 152.3

10000 94.5 97.3 96.8 100.6 102.5 103.0 104.3 108.5 112.4 116.8 109.3 104.0 151.2

12500 89.3 94.5 95.3 98.3 100.5 101.5 103.1 106.3 110.1 114.6 109.3 104.0 151.2

16000 89.0 92.1 92.8 95.8 98.7 99.4 101.2 104.8 109.2 112.9 108.0 101.2 151.0

20000 85.7 89.5 91.6 93.1 96.3 97.1 98.7 102.6 106.0 111.0 104.4 99.0 150.3

25000 82.4 86.1 91.6 93.2 94.5 96.2 99.8 103.6 108.1 100.8 96.5 89.7 149.9

31500 78.6 82.4 89.2 85.6 89.3 90.4 92.2 96.5 100.5 106.1 98.6 92.8 150.4

40000 73.4 77.7 88.9 81.1 85.6 86.5 88.0 93.2 98.4 104.6 92.7 84.9 152.7

50000 68.7 72.5 88.7 75.4 80.0 82.0 83.2 87.4 94.1 101.6 92.7 84.9 153.5

63000 62.3 68.1 86.9 69.8 74.8 76.3 77.9 82.9 89.1 97.3 88.1 79.1 154.5

80000 57.5 63.2 63.5 63.1 69.1 70.3 72.1 77.4 84.0 93.4 83.0 73.7 157.4

QASPL 111.9 113.3 111.2 114.2 115.1 114.8 116.4 121.0 126.9 132.9 131.0 128.6 126.5 168.7

PWL 124.7 126.1 123.9 127.4 128.3 127.8 129.2 134.1 139.7 145.3 142.2 138.6 136.1

PFLT 125.9 127.4 125.1 128.6 128.3 127.8 129.2 134.1 139.7 145.3 142.2 138.6 136.1

DBA 179.2 184.8 206.2 185.5 191.0 192.4 194.0 199.2 205.6 214.7 204.6 195.5 183.6

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NO2/AX/SC-2/NAS3-22514

VEHICLE = ADH728 TEST DATE = 03-17-82
IAPLHA = SB59 IEQA' = NO
WIND DIR = DEG WIND VEL = MPH
LOCAT = C41 ANECH CH CNFIO = 2
TAMB F = 53.00 PAMB HG = 29.55 RELHUM = 69.7 PCT
FLVEL = 0. FPS

FNINI = LBS XNL RPM = XNH XNHR = RPM V8 = 2445.6 FPS AE8 = 20.4 SQ IN
FNAMB = LBS XNL RPM = XNH XNHR = RPM V8 = 2445.6 FPS AE8 = 20.4 SQ IN
CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0219 X02191

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

FREQ 69.3 72.6 75.9 77.7 79.2 81.7 86.7 94.9 96.8 95.2 90.1 171.1

50 69.6 74.2 71.5 76.5 78.5 79.3 84.0 90.8 97.5 98.3 88.9 172.2

60 71.4 75.2 78.6 79.3 80.1 81.6 86.1 93.1 100.3 99.4 95.9 89.1 173.8

100 75.7 76.3 79.9 81.4 81.2 83.7 87.4 95.2 102.1 99.7 95.4 89.9 174.8

125 81.1 84.5 80.6 83.6 83.4 84.6 88.9 96.8 103.3 100.6 95.2 88.6 175.8

160 78.9 84.8 84.0 87.2 87.3 84.8 85.5 90.2 97.5 103.4 99.9 93.8 87.1 175.8

200 81.2 81.6 80.3 83.9 84.9 85.4 86.1 91.5 98.1 102.2 99.5 91.5 85.2 175.3

250 81.8 83.9 81.7 84.4 85.4 85.2 87.3 91.2 97.7 103.1 97.7 90.2 82.5 175.4

315 80.1 82.7 81.7 85.8 86.6 85.1 86.6 91.8 97.1 102.6 95.6 88.0 80.8 175.0

400 78.7 81.9 81.0 85.6 86.9 86.1 87.3 91.3 96.8 100.1 94.3 86.4 79.0 173.8

500 76.7 80.2 79.6 84.0 85.8 85.9 87.2 92.2 95.2 99.4 92.4 85.0 76.0 173.3

630 74.7 78.6 78.1 82.7 84.7 84.5 87.0 90.3 94.4 97.1 90.6 82.7 73.4 172.1

800 72.4 77.4 77.8 81.7 83.7 84.5 86.2 91.0 93.9 96.0 89.4 81.0 71.2 171.8

1000 71.0 75.5 75.8 81.1 83.2 83.7 85.0 88.7 92.2 94.3 87.2 78.1 68.7 170.7

1250 69.1 74.4 75.5 80.3 82.9 83.6 84.7 88.3 91.1 93.9 85.8 75.8 66.2 170.9

1600 65.7 71.0 73.6 77.7 80.6 81.8 83.1 85.7 88.4 91.1 83.0 73.3 60.4 169.6

2000 62.1 68.0 70.7 75.0 78.6 79.5 81.1 84.0 87.1 88.8 80.7 68.8 54.8 169.4

2500 56.6 64.1 68.6 71.6 75.7 76.7 78.0 81.1 83.0 85.6 75.3 63.9 46.9 168.7

3150 50.0 58.3 66.7 66.6 71.2 72.8 74.2 76.7 78.7 80.3 68.4 56.4 34.8 168.2

4000 40.0 49.9 60.5 59.5 64.3 65.9 67.2 70.2 71.8 73.5 60.0 43.7 16.1 168.8

5000 25.0 37.6 54.0 49.4 55.6 57.0 58.1 61.4 63.5 64.8 48.0 26.0 171.0

6300 2.5 18.2 41.7 32.8 39.9 42.7 43.1 44.8 47.1 47.3 26.5 172.8

8000 18.6 8.0 16.6 19.2 19.7 21.2 20.8 18.1 175.8

10000 12500 15000 20000 25000 31500 40000 50000 63000 80000

GASPL 89.3 92.4 91.2 95.1 96.3 96.0 97.5 101.8 107.2 112.3 108.9 103.8 97.5 186.9

PNL 93.2 96.7 96.9 100.8 102.7 103.1 104.5 108.2 112.7 116.9 111.4 104.2 96.7

PNL 93.8 97.3 97.5 101.4 103.2 103.6 104.5 108.2 113.3 117.6 112.5 104.2 96.7

DBA 82.4 86.0 86.0 90.2 92.2 92.6 94.0 98.0 101.8 105.2 99.0 91.3 83.5

MODEL AREA = 131.5 SQ CM (20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.268 FREQ SHIFT = -9

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH728 TEST DATE = 03-17-82 LOCAT = C41 ANECH CH CNFIO = 2 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 53.00 PAMB HG = 29.55 RELHUM = 69.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIO = SL MIKE HT = NBFR =

FNINI = LBS XNLR = RPM XNHR = RPM V8 = 2445.6 FPS AE8 = 20.4 SQ IN
FNFRMB = LBS XNLR = RPM XNHR = RPM V8 = 2445.6 FPS AE8 = 20.4 SQ IN

RUNPT 2F-ZER-0219 TAPE = X02191 TEST PT NO = 07 NC = AE041 CORR FAN SPEED = R

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DATPRC - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARCIDENTIFICATION - MODEL 82F-400-0220 X0220C
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 90.1 90.4 86.9 88.2 88.0 88.2 87.2 95.8 98.2 107.0 105.2 105.1 98.0 141.6

63 90.1 90.7 92.0 90.9 89.8 92.7 95.5 105.3 104.5 104.7 98.2 140.9

80 91.2 95.2 89.1 92.0 91.8 92.4 91.6 96.3 97.9 105.4 103.8 104.4 100.7 140.9

100 90.3 93.6 88.7 91.8 92.7 91.8 92.2 96.6 97.8 104.7 103.6 105.5 103.1 141.0

125 88.6 90.3 89.1 91.8 93.0 92.9 92.2 95.2 97.9 103.7 105.6 107.5 107.4 142.2

160 88.2 87.5 88.8 88.9 89.0 88.9 94.3 97.3 104.1 106.0 107.5 110.1 142.7

200 89.0 88.8 87.0 88.5 90.1 90.3 90.6 95.8 99.6 105.4 106.3 110.2 111.9 144.4

250 88.0 90.0 87.8 89.8 90.1 90.8 91.7 97.4 100.3 106.9 109.8 113.0 112.6 146.4

315 88.8 90.1 88.3 89.9 91.7 91.6 92.2 96.7 101.4 108.2 112.6 114.8 114.7 148.4

400 89.8 90.6 89.1 91.6 92.5 91.8 92.5 97.9 103.4 110.4 115.3 116.3 112.9 149.9

500 91.2 90.7 88.7 92.5 93.6 92.7 93.1 100.3 104.5 113.6 117.2 116.6 110.6 151.1

630 91.8 92.3 91.4 92.9 95.7 94.3 94.7 100.9 106.4 116.7 119.1 116.5 108.9 152.7

800 93.4 94.0 92.7 94.5 95.6 96.0 97.1 102.3 108.8 118.3 120.2 115.4 106.3 153.7

1000 96.2 97.0 95.0 97.3 97.4 97.5 98.4 103.8 110.5 120.6 121.2 115.4 106.3 155.1

1250 96.7 100.0 98.3 100.8 100.9 99.5 99.9 105.3 112.3 120.9 121.5 114.2 106.9 155.5

1500 98.2 99.3 97.3 99.6 100.2 100.3 101.9 106.4 113.6 120.9 122.0 113.1 106.9 155.8

2000 99.4 100.3 98.2 100.4 100.7 100.6 102.0 107.4 114.5 121.5 121.0 113.1 106.9 155.8

2500 98.1 99.9 98.2 101.5 102.3 101.2 101.4 107.7 114.1 121.6 119.2 112.2 106.0 155.3

3150 97.5 97.2 95.7 98.8 100.9 101.6 103.5 109.0 113.9 120.3 116.6 110.3 103.9 154.1

4000 95.5 97.0 95.7 98.6 100.9 101.6 103.4 109.0 113.1 117.9 115.3 109.8 102.1 152.5

5000 95.6 96.5 94.5 97.7 99.4 100.4 103.0 107.8 113.1 117.6 115.3 109.8 102.1 152.5

6300 94.0 96.2 94.7 97.9 99.3 101.1 102.8 108.3 113.3 117.6 114.7 109.2 101.7 152.5

8000 93.4 93.0 97.2 98.8 99.9 101.7 106.5 111.7 116.6 111.0 114.8 111.3 104.0 150.8

10000 91.2 93.9 93.6 96.9 99.1 99.9 101.9 106.8 111.0 114.8 111.3 104.0 98.6 150.8

12500 89.2 91.4 91.6 94.4 97.7 98.9 100.2 104.7 109.0 112.9 109.4 103.0 97.0 149.7

16000 86.6 88.5 87.9 92.1 95.1 96.4 98.4 102.8 107.6 110.2 106.6 100.9 94.0 148.8

20000 86.8 86.7 85.6 89.2 92.2 94.0 95.8 99.9 104.5 107.9 103.7 97.9 91.3 147.9

25000 79.4 82.4 82.4 85.5 89.6 91.7 93.1 96.7 100.9 102.1 98.9 94.5 86.9 145.8

31500 78.4 79.1 77.6 81.0 85.3 86.9 88.9 93.0 96.9 100.7 97.1 90.2 82.5 146.2

40000 74.1 75.8 73.4 76.1 81.3 83.1 85.0 89.8 95.0 99.8 95.4 86.4 78.5 148.5

50000 73.1 73.1 67.5 71.2 75.5 79.5 84.8 89.9 95.0 99.7 97.7 92.0 81.6 150.3

63000 77.9 69.6 66.1 68.8 77.1 77.5 74.7 80.8 89.9 98.4 89.7 76.8 69.7 155.2

80000 70.2 73.7 66.2 65.4 76.9 70.3 70.9 76.9 89.5 99.5 88.9 71.6 67.1 162.7

QASPL 108.2 109.7 108.0 110.7 111.9 112.1 113.5 118.7 124.3 131.1 130.8 126.3 122.1 168.1

PWL 121.2 122.7 121.0 123.9 125.2 125.2 126.5 131.9 137.4 143.9 142.7 137.4 131.9

DBA 108.0 109.5 107.8 110.6 111.6 111.6 113.0 118.4 124.4 131.4 130.8 124.8 118.6

NASA SHOCK CELL/CIRCULAR C-D NO2/AX/SC-2/NAS3-22514

VEHICL = ADH712 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 73.00 PAMB HG = 29.25 RELHUM = 65.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =FNINI = LBS XNL RPM XNHR = RPM V6 = 2452.7 FPS AE8 = 20.4 SQ IN
FNRAMB = LBS XNLR = RPM V18 = 2452.7 FPS AE18 = 0. SQ IN

RUNPT = 82F-400-0220 TAPE = X0220C TEST PT NO = 0220 NC = AE039 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0220 X0220F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. P/L

FREQ
200
250
315
400
500
630
800
1000
1250
1600

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 200 | 93.3 | 94.3 | 91.0 | 92.0 | 91.2 | 90.8 | 89.7 | 93.7 | 97.9 | 103.8 | 107.7 | 110.3 | 112.1 | 144.6 |
| 250 | 93.3 | 94.3 | 91.0 | 92.0 | 93.1 | 91.8 | 90.9 | 93.9 | 100.5 | 106.7 | 111.2 | 112.9 | 112.0 | 146.7 |
| 315 | 93.3 | 94.3 | 91.0 | 92.0 | 93.1 | 91.8 | 90.9 | 93.9 | 100.5 | 106.7 | 111.2 | 112.9 | 112.0 | 146.7 |
| 400 | 94.2 | 94.8 | 92.0 | 92.5 | 93.9 | 92.1 | 91.6 | 95.6 | 102.9 | 111.5 | 115.1 | 116.0 | 113.6 | 149.9 |
| 500 | 95.2 | 95.2 | 92.8 | 94.3 | 95.1 | 93.0 | 92.4 | 98.6 | 104.6 | 114.6 | 117.3 | 116.8 | 113.9 | 151.7 |
| 630 | 96.7 | 95.5 | 92.5 | 95.2 | 97.5 | 94.7 | 93.8 | 98.9 | 107.2 | 116.5 | 118.9 | 117.2 | 115.1 | 153.1 |
| 800 | 98.0 | 97.7 | 95.7 | 96.0 | 97.3 | 96.5 | 96.3 | 100.2 | 109.3 | 119.2 | 120.5 | 117.0 | 113.3 | 154.9 |
| 1000 | 99.0 | 98.8 | 96.7 | 97.4 | 99.0 | 97.6 | 97.3 | 103.4 | 112.7 | 119.6 | 120.9 | 117.3 | 113.3 | 155.2 |
| 1250 | 101.2 | 101.3 | 98.4 | 99.8 | 102.9 | 100.3 | 99.3 | 103.4 | 112.7 | 119.6 | 120.9 | 117.3 | 113.3 | 155.2 |
| 1600 | 102.7 | 105.3 | 102.6 | 104.0 | 102.3 | 101.3 | 101.5 | 104.8 | 113.9 | 120.7 | 120.8 | 116.4 | 112.7 | 155.9 |
| 2000 | 103.7 | 104.2 | 102.7 | 102.9 | 101.8 | 101.9 | 106.0 | 113.8 | 121.1 | 119.3 | 115.8 | 112.1 | 109.7 | 156.6 |
| 2500 | 104.5 | 104.8 | 102.1 | 103.4 | 105.2 | 102.8 | 101.6 | 106.7 | 114.9 | 120.8 | 119.2 | 115.9 | 112.2 | 157.7 |
| 3150 | 105.1 | 105.7 | 103.1 | 105.2 | 104.5 | 104.1 | 104.6 | 108.9 | 114.0 | 118.4 | 116.3 | 114.1 | 113.8 | 154.0 |
| 4000 | 105.1 | 105.7 | 103.1 | 105.2 | 104.5 | 104.1 | 104.6 | 108.9 | 114.0 | 118.4 | 116.3 | 114.1 | 113.8 | 154.0 |
| 5000 | 103.0 | 103.9 | 101.5 | 103.4 | 103.5 | 103.4 | 104.3 | 107.9 | 114.2 | 118.2 | 115.7 | 113.5 | 113.5 | 153.7 |
| 6300 | 103.1 | 103.2 | 100.3 | 102.6 | 103.4 | 104.1 | 104.3 | 108.3 | 112.7 | 117.1 | 113.8 | 109.6 | 111.5 | 152.6 |
| 8000 | 101.3 | 102.8 | 100.3 | 102.6 | 103.0 | 102.5 | 103.1 | 106.5 | 112.1 | 115.5 | 112.3 | 108.1 | 109.7 | 151.7 |
| 10000 | 100.5 | 101.2 | 98.6 | 101.7 | 103.7 | 102.9 | 103.3 | 106.8 | 110.5 | 113.9 | 110.8 | 107.6 | 108.9 | 151.1 |
| 12500 | 100.8 | 102.3 | 100.6 | 102.3 | 101.9 | 101.7 | 104.7 | 109.6 | 111.7 | 108.5 | 105.8 | 106.0 | 105.3 | 150.3 |
| 16000 | 98.3 | 99.2 | 98.1 | 99.3 | 99.7 | 99.4 | 99.9 | 102.8 | 106.8 | 109.7 | 105.9 | 103.1 | 103.5 | 149.3 |
| 20000 | 95.3 | 95.9 | 94.0 | 96.5 | 97.0 | 97.2 | 99.9 | 104.0 | 104.7 | 102.0 | 100.7 | 100.6 | 147.5 | 147.5 |
| 25000 | 90.9 | 93.6 | 91.0 | 93.0 | 94.2 | 94.7 | 94.6 | 96.7 | 100.6 | 103.9 | 100.6 | 96.6 | 96.0 | 147.5 |
| 31500 | 86.7 | 88.5 | 87.0 | 88.6 | 89.9 | 89.9 | 90.3 | 93.0 | 99.5 | 103.9 | 99.8 | 93.8 | 92.9 | 149.2 |
| 40000 | 84.8 | 84.3 | 81.4 | 83.3 | 85.9 | 86.1 | 86.4 | 89.8 | 97.7 | 102.1 | 96.8 | 89.4 | 89.0 | 150.8 |
| 50000 | 80.1 | 80.6 | 76.0 | 77.9 | 80.1 | 80.5 | 81.4 | 84.7 | 95.8 | 103.8 | 95.4 | 85.8 | 84.3 | 155.4 |
| 63000 | 83.0 | 83.0 | 77.0 | 78.0 | 81.7 | 80.5 | 80.8 | 86.9 | 96.9 | 106.4 | 96.1 | 81.8 | 84.3 | 162.8 |
| 80000 | 81.5 | 81.5 | 72.0 | 72.0 | 81.0 | 73.3 | 72.4 | 76.9 | 87.1 | 96.6 | 86.3 | 72.0 | 74.5 | 160.1 |
| GASPL | 114.3 | 115.1 | 112.5 | 114.3 | 114.0 | 114.0 | 117.9 | 124.5 | 130.5 | 130.2 | 127.4 | 127.4 | 168.9 | 168.9 |
| P/L | 127.1 | 127.9 | 125.2 | 127.1 | 127.4 | 126.2 | 126.4 | 130.5 | 136.9 | 142.9 | 141.5 | 138.6 | 139.3 | 139.3 |
| P/LT | 127.1 | 127.9 | 125.2 | 127.1 | 127.4 | 126.2 | 126.4 | 130.5 | 136.9 | 142.9 | 141.5 | 138.6 | 139.3 | 139.3 |
| DBA | 202.1 | 193.5 | 188.3 | 189.7 | 201.5 | 195.5 | 193.7 | 198.1 | 210.2 | 219.6 | 209.4 | 195.5 | 197.8 | 197.8 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH712 TEST DATE = 03-16-82
IAPLHA = SB59 IEGA = NO
WIND DIR = DEG WIND VEL = MPH
LOCAT = C41 ANECH CH
CONFIG = 2
MODEL = AX
FLTVEL = 400. FPS
RELHUM = 29.25
NBFR =

ORIGINAL PAGE IS
OF POOR QUALITY

RPM = 2452.7 FPS AE8 = 20.4 SQ IN
CORR FAN SPEED =

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0220 X02201

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 73.2 73.6 74.7 76.6 74.9 74.2 77.9 84.5 92.0 94.1 92.7 87.0 168.3

60 74.1 75.7 74.3 76.5 77.8 75.8 80.8 86.1 95.0 96.2 93.5 87.3 170.0

80 75.6 75.9 74.0 77.4 80.1 77.5 76.4 81.1 88.7 96.9 97.8 93.8 171.5

100 76.8 78.0 77.1 79.9 79.2 78.8 82.4 90.7 99.5 99.2 94.6 89.6 173.2

125 77.6 79.0 78.0 79.4 81.5 80.8 80.1 83.8 92.6 99.8 93.4 90.2 173.5

150 79.7 81.3 79.6 81.8 85.3 82.8 81.7 85.4 93.9 99.8 100.0 92.5 174.0

200 80.9 85.1 83.6 85.8 84.5 83.7 86.5 94.9 100.5 99.1 92.2 89.7 174.3

250 81.6 83.8 82.2 84.3 84.9 83.9 87.5 94.6 100.7 97.2 91.1 88.5 174.0

315 82.0 84.1 82.5 84.7 87.0 83.3 87.9 95.4 100.1 96.7 90.7 87.8 174.0

400 82.4 85.2 83.6 86.5 86.9 85.6 88.7 94.8 99.5 94.3 88.3 84.8 173.5

500 81.6 84.2 82.9 85.9 85.7 85.5 89.6 93.8 96.9 92.8 87.6 82.4 172.3

630 79.0 81.0 83.8 84.4 84.5 85.4 88.3 93.7 96.3 91.7 86.4 81.0 172.1

800 78.6 80.9 79.5 82.7 84.0 84.9 88.5 91.9 94.8 89.3 81.8 77.8 171.0

1000 76.4 80.2 79.3 82.6 83.5 83.2 86.5 91.1 92.9 87.4 79.6 74.9 170.1

1250 75.1 78.2 77.3 81.5 84.1 83.5 86.6 89.2 91.0 85.4 78.2 72.7 169.5

1600 74.5 78.7 78.9 81.7 82.4 82.2 81.8 84.8 88.1 82.2 75.1 67.4 168.7

2000 71.0 75.1 76.0 78.5 79.7 79.5 79.8 82.0 84.8 85.6 78.6 70.8 167.7

2500 66.3 70.6 71.0 75.0 76.2 76.6 76.6 78.4 81.0 79.3 72.9 65.6 165.9

3150 58.5 65.8 66.2 70.0 72.2 73.1 72.6 73.7 75.7 76.1 68.2 56.7 165.9

4000 48.0 56.0 58.4 62.3 64.9 65.3 65.3 66.7 70.8 71.3 61.1 44.8 167.5

5000 36.4 44.2 46.5 51.5 53.9 56.7 56.4 58.1 62.8 62.1 48.4 26.7 169.2

6300 13.9 26.3 29.8 35.4 40.0 43.2 41.3 42.2 48.9 49.5 29.2 173.7

8000 13.9 26.3 29.8 35.4 40.0 43.2 41.3 42.2 48.9 49.5 29.2 173.7

10000 13.9 26.3 29.8 35.4 40.0 43.2 41.3 42.2 48.9 49.5 29.2 173.7

12500 13.9 26.3 29.8 35.4 40.0 43.2 41.3 42.2 48.9 49.5 29.2 173.7

15000 13.9 26.3 29.8 35.4 40.0 43.2 41.3 42.2 48.9 49.5 29.2 173.7

178.4 181.2 173.7 169.2 167.5 165.9 165.9 165.9 165.9 165.9 165.9 165.9 165.9

178.4 181.2 173.7 169.2 167.5 165.9 165.9 165.9 165.9 165.9 165.9 165.9 165.9

178.4 181.2 173.7 169.2 167.5 165.9 165.9 165.9 165.9 165.9 165.9 165.9 165.9

178.4 181.2 173.7 169.2 167.5 165.9 165.9 165.9 165.9 165.9 165.9 165.9 165.9

178.4 181.2 173.7 169.2 167.5 165.9 165.9 165.9 165.9 165.9 165.9 165.9 165.9

178.4 181.2 173.7 169.2 167.5 165.9 165.9 165.9 165.9 165.9 165.9 165.9 165.9

178.4 181.2 173.7 169.2 167.5 165.9 165.9 165.9 165.9 165.9 165.9 165.9 165.9

178.4 181.2 173.7 169.2 167.5 165.9 165.9 165.9 165.9 165.9 165.9 165.9 165.9

178.4 181.2 173.7 169.2 167.5 165.9 165.9 165.9 165.9 165.9 165.9 165.9 165.9

178.4 181.2 173.7 169.2 167.5 165.9 165.9 165.9 165.9 165.9 165.9 165.9 165.9

178.4 181.2 173.7 169.2 167.5 165.9 165.9 165.9 165.9 165.9 165.9 165.9 165.9

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OF POOR QUALITY

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514
VEHICL = ADH712 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CNFIO = 2 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEQA = NO EXT DIST = 2400.0 FT TAMB F = 73.00 PAMB H0 = 29.25 RELHUM = 65.6 PCT
WIND DIR = DEG WIND VEL = MPH PWL AREA = FULL SPHERE EXT CNFIO = SL MIKE HT = NBFR =
FNINI = LBS XNL RPM XNHR = V8 = 2452.7 FPS AE8 = 20.4 SQ IN
FNRAMB = LBS XNLR RPM XNHR = V8 = 2452.7 FPS AE8 = 20.4 SQ IN
CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0221 X0221F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 84.9 84.5 84.2 83.3 86.9 85.2 85.1 85.5 96.5 94.3 94.7 94.9 95.0 133.0

63 88.5 87.5 89.5 91.6 91.7 91.0 92.9 88.6 99.5 97.9 98.7 98.8 137.0

80 90.8 89.6 88.1 92.1 93.0 93.6 92.7 93.9 97.1 98.7 99.5 100.9 137.0

100 90.1 89.6 89.2 94.2 95.2 94.4 94.7 97.4 98.4 97.9 99.3 103.5 139.6

125 86.6 89.4 89.4 93.4 95.0 94.4 94.0 95.2 97.7 98.7 105.6 107.5 142.0

160 86.3 85.1 87.6 89.6 90.5 90.6 91.7 93.6 98.1 100.9 106.0 108.2 143.1

200 88.0 88.3 87.1 91.4 93.5 93.3 93.2 96.6 102.3 103.7 108.0 112.0 145.9

250 88.0 89.6 89.6 93.1 93.2 93.3 95.7 98.9 102.3 108.9 113.3 116.5 149.6

315 89.1 90.9 88.6 93.2 94.8 94.6 95.3 98.7 105.4 110.9 115.6 117.7 151.3

400 90.6 92.4 89.9 93.9 95.0 94.6 96.8 99.4 107.1 114.4 118.6 117.4 153.1

500 91.7 93.5 90.2 94.8 96.4 96.0 97.4 101.5 109.0 117.1 120.2 118.9 154.2

630 93.0 95.3 92.4 96.4 97.5 97.6 99.5 104.1 111.4 119.7 120.8 116.9 155.5

800 97.2 96.5 94.5 98.0 99.1 99.0 100.9 105.5 114.0 121.6 117.5 116.8 157.4

1000 102.2 104.0 98.3 100.8 102.1 100.7 102.6 107.0 115.3 122.6 118.9 116.8 157.4

1250 102.5 105.5 102.5 104.4 102.5 103.9 108.3 116.8 123.1 122.5 117.6 115.4 157.7

1500 106.2 103.3 100.8 103.1 103.7 102.8 104.6 109.4 117.5 122.4 120.7 115.9 156.9

1600 106.2 103.3 100.8 103.1 103.7 102.8 104.6 109.4 117.5 122.4 120.7 115.9 156.9

2000 106.2 103.3 100.8 103.1 103.7 102.8 104.6 109.4 117.5 122.4 120.7 115.9 156.9

2500 106.2 103.3 100.8 103.1 103.7 102.8 104.6 109.4 117.5 122.4 120.7 115.9 156.9

3150 103.3 104.8 102.6 105.9 106.3 106.6 110.9 117.2 121.5 117.5 111.9 110.0 155.9

4000 101.5 103.3 101.0 104.6 105.4 105.6 107.0 112.1 116.2 120.6 116.1 111.7 155.1

5000 100.2 102.1 99.6 106.6 106.6 106.6 111.4 116.2 120.6 116.1 111.7 110.0 153.8

6300 98.2 100.9 99.8 102.6 103.8 105.0 106.0 110.9 114.9 117.8 113.6 108.6 153.4

8000 96.9 99.1 97.8 102.0 103.5 104.0 105.2 109.3 114.3 116.6 112.4 106.3 152.6

10000 95.3 97.6 98.1 101.6 103.3 103.5 105.3 109.5 113.3 111.2 109.3 103.8 152.6

12500 93.2 95.8 95.8 98.8 102.0 102.2 103.3 107.0 111.1 114.4 109.3 103.8 151.4

15000 90.1 93.1 94.1 96.6 98.9 100.1 102.2 105.1 110.0 112.7 107.2 100.7 151.1

20000 87.2 90.5 92.6 93.3 96.8 97.3 99.4 102.8 103.0 110.7 104.4 98.3 150.7

25000 83.6 87.3 91.8 90.4 93.7 95.0 96.4 100.8 103.8 108.1 100.8 95.7 150.0

31500 79.6 83.4 90.0 86.6 90.1 90.9 93.2 97.3 100.7 106.1 98.4 92.5 150.6

40000 75.2 78.5 89.6 81.4 86.3 87.0 89.0 93.4 97.7 104.4 96.2 89.8 152.3

50000 69.7 73.5 87.9 76.6 81.2 83.0 84.2 88.6 95.1 100.9 92.5 84.9 153.2

63000 63.3 68.4 87.9 70.8 75.8 77.8 78.9 84.4 90.9 96.8 87.1 79.6 154.5

80000 58.7 64.0 86.0 64.4 70.6 71.3 72.8 79.9 86.0 93.2 83.2 72.7 157.6

QASPL 113.5 114.5 112.1 115.0 115.9 116.6 116.9 121.4 127.5 132.7 131.3 128.7 127.1 168.8

PWL 126.1 128.0 125.2 129.5 129.3 128.8 129.9 134.6 140.2 144.9 142.4 138.8 136.7

DBA 180.4 185.4 206.7 186.6 192.3 193.5 194.9 201.3 207.5 214.3 204.5 195.0 185.4

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICLE = ADH729 TEST DATE = 03-17-82
IAPLHA = SB59
WIND DIR =
WIND VEL =
VEGA = NO
EXT DIST = 40.0 FT
PWL AREA = FULL SPHERE
CONFID = 2
MODEL = AX
PAMB HG = 29.55
RELHUM = 69.7 PCT
FLTVEL = 0. FPS
NBRFR =

FNINI = LBS XNLR = RPM
XNHR = RPM
V8 = 2457.9 FPS
AE8 = 20.4 SQ IN
AE18 = 0. SQ IN

RUNPT = 82F-ZER-0221 TAPE = X0221F
TEST PT NO = 0221
NC = AE041
CORR FAN SPEED = RPM

ORIGINAL PAGE 19
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0221 X02211

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

| | | | | | | | | | | | | | | |
|-------|------|------|------|------|------|------|------|------|-------|-------|-------|------|------|-------|
| 50 | 69.5 | 72.8 | 71.4 | 76.2 | 77.7 | 77.4 | 79.4 | 81.7 | 86.7 | 94.9 | 97.5 | 95.5 | 90.8 | 171.5 |
| 63 | 70.6 | 73.9 | 71.8 | 77.0 | 79.0 | 78.8 | 80.0 | 83.8 | 90.5 | 97.5 | 99.1 | 95.6 | 89.4 | 172.6 |
| 80 | 71.9 | 75.7 | 73.8 | 78.6 | 80.1 | 80.3 | 82.1 | 86.3 | 92.8 | 100.1 | 99.7 | 95.9 | 90.1 | 173.8 |
| 100 | 76.0 | 76.8 | 75.9 | 80.2 | 81.7 | 81.7 | 83.4 | 87.7 | 95.4 | 101.9 | 100.2 | 95.4 | 90.6 | 174.9 |
| 125 | 80.8 | 84.2 | 79.6 | 82.9 | 83.6 | 83.4 | 84.6 | 89.1 | 96.6 | 102.8 | 101.1 | 95.2 | 89.6 | 175.8 |
| 160 | 80.9 | 85.6 | 83.7 | 87.0 | 86.8 | 85.0 | 86.3 | 90.2 | 98.0 | 103.2 | 100.9 | 93.8 | 87.9 | 176.1 |
| 200 | 84.4 | 83.1 | 81.8 | 84.9 | 85.9 | 85.1 | 86.8 | 91.2 | 98.6 | 102.2 | 99.0 | 91.7 | 85.7 | 175.3 |
| 250 | 84.0 | 85.9 | 83.2 | 86.4 | 85.7 | 85.5 | 87.3 | 91.7 | 98.7 | 103.1 | 97.9 | 90.5 | 83.5 | 175.7 |
| 315 | 81.9 | 84.7 | 83.2 | 87.3 | 88.3 | 86.1 | 86.9 | 92.0 | 97.6 | 101.9 | 95.6 | 88.5 | 81.5 | 174.8 |
| 400 | 80.2 | 83.7 | 82.7 | 86.8 | 87.9 | 88.1 | 91.8 | 97.3 | 100.4 | 94.5 | 86.1 | 79.5 | 74.2 | |
| 500 | 78.0 | 81.7 | 80.8 | 85.2 | 86.6 | 86.9 | 88.2 | 92.7 | 96.0 | 99.1 | 92.6 | 85.2 | 77.3 | 173.5 |
| 630 | 76.2 | 80.1 | 79.1 | 84.0 | 85.9 | 85.8 | 87.5 | 91.8 | 94.9 | 96.6 | 90.6 | 82.2 | 73.7 | 172.2 |
| 800 | 73.7 | 78.6 | 79.0 | 82.7 | 84.4 | 85.8 | 86.7 | 91.0 | 94.1 | 95.5 | 89.1 | 80.8 | 71.7 | 171.7 |
| 1000 | 72.0 | 76.5 | 76.8 | 81.9 | 84.0 | 84.7 | 85.7 | 89.2 | 93.2 | 94.0 | 87.4 | 77.8 | 68.9 | 171.0 |
| 1250 | 69.9 | 74.6 | 76.8 | 81.3 | 83.7 | 84.1 | 85.7 | 89.3 | 91.9 | 93.4 | 85.8 | 75.8 | 66.2 | 171.0 |
| 1600 | 66.9 | 72.2 | 74.1 | 78.2 | 82.1 | 82.5 | 83.4 | 86.4 | 89.4 | 90.8 | 83.0 | 73.1 | 61.9 | 169.8 |
| 2000 | 62.8 | 69.0 | 72.0 | 75.8 | 80.3 | 82.1 | 84.3 | 87.9 | 88.5 | 79.9 | 68.3 | 55.8 | 46.9 | 169.5 |
| 2500 | 58.1 | 65.1 | 69.6 | 71.9 | 76.2 | 77.0 | 78.8 | 81.4 | 85.0 | 85.4 | 75.3 | 63.1 | 47.9 | 169.1 |
| 3150 | 51.2 | 59.5 | 67.0 | 67.3 | 71.7 | 73.3 | 74.4 | 77.7 | 79.0 | 80.3 | 68.4 | 55.6 | 35.0 | 168.4 |
| 4000 | 41.0 | 50.9 | 61.3 | 60.3 | 65.1 | 66.4 | 68.2 | 71.0 | 72.0 | 73.5 | 59.7 | 43.5 | 16.9 | 169.0 |
| 5000 | 26.7 | 38.4 | 54.7 | 49.6 | 56.4 | 57.5 | 59.1 | 61.7 | 62.8 | 64.3 | 47.7 | 27.0 | | 170.7 |
| 6300 | 3.5 | 19.2 | 41.0 | 34.1 | 41.2 | 43.7 | 44.1 | 46.1 | 46.6 | 46.6 | 26.3 | | | 171.6 |
| 8000 | | | | | | | | | | | | | | 172.9 |
| 10000 | | | | | | | | | | | | | | 176.0 |

ORIGINAL PAGE IS
OF POOR QUALITY

20000
25000
31500
40000
50000
63000
80000

| | | | | | | | | | | | | |
|-----|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| DBA | 84.0 | 87.1 | 91.3 | 93.2 | 93.5 | 94.7 | 98.6 | 102.4 | 104.9 | 99.1 | 91.3 | 84.2 |
| PWL | 94.9 | 98.1 | 101.7 | 103.7 | 103.8 | 105.2 | 108.7 | 113.3 | 116.6 | 111.4 | 104.2 | 97.4 |
| PNL | 95.9 | 98.6 | 102.3 | 103.7 | 104.3 | 105.2 | 108.7 | 113.9 | 117.2 | 112.5 | 104.2 | 97.4 |
| DBA | 84.0 | 87.4 | 91.3 | 93.2 | 93.5 | 94.7 | 98.6 | 102.4 | 104.9 | 99.1 | 91.3 | 84.2 |

MODEL AREA = 131.5 SQ CM (20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.268 FREQ SHIFT = -9

NASA SHOCK CELL/CIRCULAR C-D NO2/AX/SC-2/NAS3-22514

VEHICL = ADH729 TEST DATE = 03-17-82
 LOCAL = C41 ANECH CH CONFIG = 2
 TAMB F = 53.00 EXT CONFIG = SL
 PAMB HG = 29.55 MIKE HT =
 RELHUM = 69.7 PCT NBFR =
 FLTVEL = 0. FPS

WIND DIR = SB59
 DEG WIND VEL = NO
 MPH
 LOCAL = C41 ANECH CH CONFIG = 2
 TAMB F = 53.00 EXT CONFIG = SL
 PAMB HG = 29.55 MIKE HT =
 RELHUM = 69.7 PCT NBFR =
 FLTVEL = 0. FPS

VEHICL = ADH729 TEST DATE = 03-17-82
 LOCAL = C41 ANECH CH CONFIG = 2
 TAMB F = 53.00 EXT CONFIG = SL
 PAMB HG = 29.55 MIKE HT =
 RELHUM = 69.7 PCT NBFR =
 FLTVEL = 0. FPS

VEHICL = ADH729 TEST DATE = 03-17-82
 LOCAL = C41 ANECH CH CONFIG = 2
 TAMB F = 53.00 EXT CONFIG = SL
 PAMB HG = 29.55 MIKE HT =
 RELHUM = 69.7 PCT NBFR =
 FLTVEL = 0. FPS

DATPROC - FL11AN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARCIDENTIFICATION - MODEL 82F-400-0222 X0222C
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|---|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------|
| 50 | 89.3 | 89.6 | 86.2 | 86.4 | 85.2 | 88.2 | 86.2 | 93.0 | 93.7 | 104.8 | 104.7 | 102.6 | 98.0 139.8 |
| 63 | 89.1 | 90.2 | 90.9 | 91.0 | 90.1 | 88.4 | 91.4 | 93.2 | 94.3 | 103.1 | 104.2 | 98.8 | 98.8 139.3 |
| 80 | 90.6 | 94.5 | 88.6 | 91.5 | 91.3 | 92.4 | 91.3 | 94.2 | 95.1 | 102.9 | 101.8 | 100.7 | 101.0 138.8 |
| 100 | 90.3 | 94.1 | 88.5 | 91.8 | 92.7 | 92.0 | 92.4 | 96.1 | 96.3 | 102.9 | 102.8 | 103.0 | 103.8 139.9 |
| 125 | 87.8 | 89.6 | 88.3 | 91.3 | 92.5 | 92.4 | 92.0 | 94.7 | 95.1 | 102.2 | 104.6 | 106.3 | 107.7 141.3 |
| 160 | 87.2 | 86.5 | 87.0 | 88.3 | 87.6 | 88.7 | 89.1 | 92.8 | 94.0 | 103.4 | 105.0 | 107.0 | 110.4 142.2 |
| 200 | 87.7 | 89.0 | 86.0 | 88.8 | 89.4 | 89.8 | 90.4 | 95.3 | 98.8 | 103.9 | 106.0 | 110.0 | 112.6 144.3 |
| 250 | 87.2 | 89.3 | 87.3 | 89.3 | 89.4 | 90.5 | 90.9 | 96.8 | 98.6 | 106.4 | 109.5 | 113.5 | 116.7 146.7 |
| 315 | 87.8 | 89.1 | 85.8 | 89.6 | 90.7 | 91.1 | 91.7 | 95.9 | 95.9 | 100.9 | 108.9 | 112.3 | 114.8 148.5 |
| 400 | 88.8 | 90.3 | 87.8 | 91.1 | 91.5 | 91.1 | 92.5 | 97.2 | 102.4 | 110.2 | 115.1 | 116.0 | 113.2 149.6 |
| 500 | 89.7 | 91.0 | 88.5 | 91.0 | 92.3 | 93.0 | 92.8 | 98.8 | 104.0 | 113.1 | 117.5 | 116.1 | 111.0 151.0 |
| 630 | 91.1 | 89.8 | 92.9 | 93.5 | 94.1 | 95.0 | 100.4 | 106.4 | 116.7 | 119.1 | 116.5 | 108.9 | 152.7 |
| 800 | 92.4 | 93.2 | 91.0 | 94.5 | 95.1 | 95.7 | 97.4 | 102.0 | 109.0 | 118.6 | 120.5 | 115.6 | 107.5 153.9 |
| 1000 | 96.7 | 97.0 | 94.3 | 96.8 | 97.1 | 97.5 | 98.6 | 104.3 | 110.8 | 120.6 | 121.2 | 115.4 | 106.3 155.2 |
| 1250 | 98.7 | 101.0 | 98.8 | 100.6 | 100.7 | 99.8 | 100.4 | 106.1 | 112.8 | 121.1 | 121.5 | 114.4 | 107.4 155.7 |
| 1600 | 101.5 | 101.5 | 99.6 | 100.6 | 100.4 | 100.6 | 101.6 | 107.9 | 113.6 | 120.9 | 122.5 | 113.6 | 106.7 156.0 |
| 2000 | 101.9 | 102.6 | 101.0 | 103.4 | 102.4 | 100.6 | 102.5 | 107.9 | 114.2 | 121.5 | 121.5 | 113.6 | 107.4 156.1 |
| 2500 | 100.6 | 101.7 | 100.2 | 103.2 | 104.3 | 102.2 | 102.4 | 108.5 | 113.9 | 121.1 | 119.9 | 112.2 | 106.7 155.3 |
| 3150 | 98.5 | 100.0 | 99.1 | 102.3 | 103.4 | 103.7 | 103.9 | 108.6 | 114.7 | 120.0 | 118.3 | 111.7 | 105.7 154.6 |
| 4000 | 97.0 | 98.2 | 97.7 | 100.3 | 102.1 | 102.1 | 104.7 | 110.0 | 113.9 | 119.3 | 117.3 | 110.2 | 104.7 153.9 |
| 5000 | 96.4 | 97.7 | 96.2 | 99.2 | 100.7 | 100.6 | 103.8 | 109.1 | 113.6 | 116.4 | 116.3 | 108.8 | 102.8 152.4 |
| 6300 | 95.0 | 97.5 | 95.9 | 98.7 | 100.6 | 101.3 | 103.3 | 109.0 | 113.8 | 116.4 | 115.0 | 107.5 | 102.0 152.2 |
| 8000 | 94.1 | 95.5 | 94.3 | 98.2 | 100.2 | 100.4 | 102.4 | 107.8 | 113.2 | 114.8 | 113.6 | 105.3 | 101.0 151.4 |
| 10000 | 92.7 | 94.6 | 94.4 | 97.6 | 100.1 | 100.4 | 102.9 | 108.1 | 112.0 | 114.3 | 112.1 | 104.5 | 99.6 151.2 |
| 12500 | 90.9 | 92.1 | 91.6 | 95.4 | 98.4 | 98.9 | 100.7 | 105.4 | 109.7 | 111.7 | 109.6 | 103.2 | 97.2 149.6 |
| 16000 | 89.5 | 88.9 | 88.9 | 92.6 | 96.9 | 98.9 | 103.6 | 109.4 | 109.4 | 109.4 | 108.1 | 99.9 | 94.5 149.1 |
| 20000 | 84.6 | 87.5 | 85.9 | 89.7 | 93.2 | 94.2 | 96.3 | 100.9 | 105.5 | 107.1 | 104.9 | 97.7 | 148.1 |
| 25000 | 81.9 | 84.4 | 82.4 | 86.0 | 90.4 | 92.0 | 93.6 | 98.2 | 100.9 | 102.1 | 99.2 | 95.5 | 87.7 146.1 |
| 31500 | 78.1 | 78.8 | 78.4 | 82.0 | 86.0 | 87.4 | 89.9 | 94.2 | 98.1 | 100.2 | 96.8 | 91.2 | 83.7 145.5 |
| 40000 | 74.3 | 76.5 | 74.4 | 77.3 | 82.3 | 83.4 | 86.0 | 90.9 | 95.5 | 99.3 | 87.2 | 79.8 | 148.6 |
| 50000 | 74.6 | 70.6 | 68.3 | 72.0 | 76.5 | 79.0 | 80.7 | 87.3 | 93.5 | 96.7 | 93.0 | 83.1 | 150.2 |
| 63000 | 65.9 | 78.7 | 64.6 | 67.8 | 71.6 | 75.3 | 76.0 | 82.3 | 91.4 | 97.6 | 91.2 | 78.8 | 155.0 |
| 80000 | 69.9 | 72.5 | 65.9 | 67.9 | 71.6 | 73.9 | 73.9 | 79.4 | 89.5 | 100.5 | 89.7 | 72.8 | 163.5 |
| DBA | 109.9 | 110.9 | 109.4 | 111.9 | 112.7 | 112.2 | 113.7 | 119.1 | 124.6 | 131.0 | 131.1 | 124.8 | 119.0 |
| PNL | 122.6 | 123.8 | 122.2 | 125.1 | 126.0 | 126.0 | 127.3 | 132.5 | 137.4 | 143.3 | 143.0 | 137.2 | 132.3 |
| CASPL | 109.6 | 110.8 | 109.1 | 111.8 | 112.7 | 112.5 | 114.1 | 119.3 | 124.6 | 130.7 | 131.1 | 126.2 | 122.6 168.4 |
| NASA SHOCK CELL/CIRCULAR C-D NO2/AX/SC-2/NAS3-22514 | | | | | | | | | | | | | |
| VEHICL | = ADH711 | | | | | | | | | | | | |
| TEST DATE | = 03-16-82 | | | | | | | | | | | | |
| LOCAT | = C41 ANECH CH | | | | | | | | | | | | |
| CONFIG | = 2 | | | | | | | | | | | | |
| TAMB F | = 73.00 | | | | | | | | | | | | |
| EXT CONFIG | = ARC | | | | | | | | | | | | |
| EXT DIST | = 40.0 FT | | | | | | | | | | | | |
| PWL AREA | = FULL SPHERE | | | | | | | | | | | | |
| WIND DIR | = SB59 | | | | | | | | | | | | |
| DEG WIND VEL | = NO | | | | | | | | | | | | |
| MPH | | | | | | | | | | | | | |
| VEHICL | = ADH711 | | | | | | | | | | | | |
| TEST DATE | = 03-16-82 | | | | | | | | | | | | |
| LOCAT | = C41 ANECH CH | | | | | | | | | | | | |
| CONFIG | = 2 | | | | | | | | | | | | |
| MODEL | = AX | | | | | | | | | | | | |
| FLTVEL | = 400. FPS | | | | | | | | | | | | |
| RELHUM | = 65.6 PCT | | | | | | | | | | | | |
| MIKE HT | = 29.25 | | | | | | | | | | | | |
| FPS AE18 | = 2462.3 | | | | | | | | | | | | |
| FPS AE6 | = 20.4 | | | | | | | | | | | | |
| SO IN | = 0. | | | | | | | | | | | | |
| SO IN | = 0. | | | | | | | | | | | | |
| NC | = AE039 | | | | | | | | | | | | |
| CORR FAN SPEED | = RPM | | | | | | | | | | | | |

ORIGINAL PAGE IS
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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 8ZF-400-0222F X0222F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

200
160
125
100
80
63
50
400

250 92.5 93.5 90.6 91.5 90.5 90.5 89.0 93.2 97.4 104.6 107.4 110.3 112.6 144.7
315 92.5 93.5 90.6 91.5 92.2 91.3 90.4 93.1 99.1 106.1 110.6 112.3 112.0 146.2
400 93.6 94.1 89.8 92.4 92.9 91.3 91.2 94.4 102.4 111.0 115.3 115.4 113.7 149.7

500 94.1 94.9 91.5 93.7 93.9 93.3 92.1 97.1 104.6 114.6 117.3 116.8 113.9 151.6
630 95.4 95.9 92.4 93.8 95.1 94.5 94.1 98.4 107.5 116.8 119.2 117.2 115.3 153.3
800 96.5 97.6 93.6 95.6 97.0 96.3 96.5 100.0 109.6 119.2 120.5 118.1 116.5 154.8
1000 98.6 98.6 95.3 97.7 98.7 98.1 97.9 102.3 111.8 119.9 121.0 117.4 112.9 155.4

1250 102.2 101.5 97.8 99.4 102.4 100.6 99.8 104.2 112.7 119.5 122.0 116.9 117.2 155.8
1600 103.9 105.4 102.3 103.2 102.4 101.2 105.3 113.7 120.8 121.3 117.0 118.3 116.2 156.3
2000 107.7 106.7 103.6 103.5 104.6 101.8 102.4 106.5 113.7 120.8 120.3 116.1 118.2 155.9

2500 107.4 107.2 104.8 106.3 107.1 103.8 102.6 107.5 115.0 120.2 119.7 116.1 117.7 155.8
3150 107.3 107.6 105.2 107.1 106.7 105.8 104.5 108.1 114.8 119.9 118.5 114.7 116.7 155.4
4000 106.1 106.7 105.6 106.7 105.8 104.6 105.9 110.0 114.6 117.5 113.5 115.0 154.2

5000 104.5 104.9 103.5 104.9 104.7 103.6 105.3 109.3 114.6 117.0 116.1 111.9 113.9 153.6
6300 103.8 104.4 102.1 104.1 104.6 104.3 104.8 109.1 114.4 115.6 114.9 109.9 113.1 152.9
8000 103.3 104.1 101.6 103.4 103.9 103.3 103.9 107.9 113.2 115.2 113.3 109.0 111.5 152.3

10000 101.3 101.9 99.8 102.7 103.4 104.4 104.7 103.4 104.4 108.2 111.3 112.8 111.3 108.2 109.7 151.4
12500 102.3 103.0 101.3 103.0 103.0 101.9 102.2 105.5 110.3 110.9 110.0 104.9 106.6 150.7
15000 100.1 100.0 98.1 100.3 100.3 99.9 100.4 103.6 107.9 109.1 107.3 103.2 104.9 149.8

20000 96.6 96.9 95.0 97.0 97.8 97.2 97.8 100.9 104.2 105.0 102.6 102.2 102.0 148.1
25000 92.7 94.3 91.3 93.5 95.0 95.3 98.4 101.8 103.4 100.4 97.8 97.2 148.0
31500 89.2 90.5 87.0 89.1 90.6 90.4 91.3 94.2 100.0 103.4 100.3 94.6 94.1 149.4

40000 84.6 84.1 82.2 84.3 86.9 86.4 87.4 90.8 98.4 101.1 97.8 98.9 150.8
50000 80.4 81.4 77.8 79.1 81.1 82.0 82.1 87.2 97.3 103.0 96.9 87.5 87.8 155.3
63000 79.7 74.5 70.7 72.9 75.1 78.3 77.4 82.3 96.9 107.4 96.9 83.1 85.4 163.7

80000 64.4 76.8 62.3 65.0 72.5 74.6 75.4 79.4 87.1 97.6 87.1 73.3 75.6 160.8
CASPL 115.9 116.2 113.8 115.4 115.8 114.5 114.8 118.7 124.9 130.2 130.7 127.5 128.0 169.3
PNLT 128.6 129.0 126.5 128.3 127.2 127.3 131.4 137.2 142.3 142.1 138.7 139.9
DBA 191.4 197.2 185.7 188.0 193.6 195.7 196.3 200.4 210.3 220.6 210.2 196.9 198.9

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH711 TEST DATE = 03-16-82
IAPLHA = SB59 IEGA = NG
WIND DIR = DEG WIND VEL = MPH
LOCAL = C41 ANECH CH CONFIG = 2
PWL AREA = FULL SPHERE TAMB F = 73.00
EXT DIST = 40.0 FT
EXT CNF1G = ARC
PAMB HG = 29.25
RELHUM = 65.6 PCT
FLTVEL = 400. FPS
MODEL = AX
MIKE HT = NBFR
FPS AE8 = 2462.3
V8 RPM = 20.4 SO IN
V18 RPM = 0. SO IN
XNHL LBS XNLR = 20.4 SO IN
XNHR RPM = 0. SO IN
XNH RPM = 0. SO IN
TEST PT NO = 0222
NC = AE039
CORR FAN SPEED = RPM
RUNPT = 8
00-0222 TAPE = X0222F

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0222 X02221

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 72.5 74.6 71.3 74.7 75.6 74.1 73.8 76.7 83.9 91.4 94.2 92.1 87.1 168.1

63 73.0 75.4 76.6 76.1 74.8 79.3 86.1 95.0 96.2 93.5 87.3 170.0

80 74.2 76.3 73.9 77.7 77.2 76.7 80.6 89.0 97.2 98.0 93.8 88.5 171.6

100 75.3 77.9 75.1 77.8 79.5 78.9 79.1 82.1 91.0 99.5 99.2 94.6 89.6 173.2

125 77.3 78.8 76.7 79.7 81.2 80.8 80.4 84.3 93.1 100.1 99.6 93.7 90.7 173.8

160 80.7 81.6 79.0 81.3 84.8 83.1 82.2 86.2 93.9 99.6 100.5 89.7 174.2

200 82.1 85.3 83.3 85.0 86.6 84.0 84.4 88.1 94.5 100.4 98.2 91.5 89.5 174.3

250 85.6 86.3 84.3 85.0 86.6 84.0 84.4 88.1 94.5 100.4 98.2 91.5 89.5 174.3

315 84.8 86.5 85.2 87.6 88.9 85.7 84.4 88.8 95.5 99.5 97.1 90.9 88.3 174.2

400 84.2 86.5 85.3 88.1 88.1 87.4 86.0 89.0 95.0 98.8 95.5 88.8 86.2 173.7

500 82.6 85.2 84.4 87.4 87.0 86.0 87.1 90.7 94.4 95.6 94.0 87.0 83.6 172.5

630 80.5 83.0 83.0 85.3 85.6 84.7 86.2 89.6 94.2 95.1 92.1 84.8 81.4 172.0

800 79.3 82.1 81.2 84.2 85.3 85.1 85.5 89.2 93.6 93.3 90.4 82.1 79.4 171.3

1000 77.4 81.5 80.5 83.3 84.7 83.9 84.4 87.8 92.2 92.6 88.4 80.5 76.7 170.7

1250 75.8 79.0 78.5 82.5 85.1 84.0 84.7 87.9 90.0 89.9 85.9 78.9 73.4 169.7

1500 76.0 79.5 79.6 82.5 83.1 82.2 82.3 84.9 88.6 87.4 83.7 74.2 68.0 169.1

2000 72.8 75.9 76.0 79.5 80.4 80.0 80.3 82.8 85.8 84.9 80.0 70.9 63.3 168.1

2500 67.5 71.6 72.0 75.5 77.2 76.9 77.1 79.5 81.2 79.6 73.5 67.1 55.5 166.5

3150 60.3 66.6 66.4 70.5 73.0 73.3 73.3 75.4 77.0 75.6 67.9 57.7 42.3 166.3

4000 50.5 58.0 58.4 62.8 65.6 65.9 67.4 69.1 71.3 70.8 61.6 45.5 24.7 167.7

5000 36.1 44.0 47.3 52.5 56.9 56.9 57.4 59.1 63.5 61.1 49.4 28.2 0.7 169.2

6300 14.2 27.1 30.8 36.6 41.0 42.7 42.0 44.7 50.4 48.7 30.7 0.1 182.0 173.7

8000 2.4 11.1 16.9 21.2 19.2 20.5 28.6 28.2 0.1 179.2

ORIGINAL PAGE IS
OF POOR QUALITY

80000
63000
50000
40000
31500
25000
20000
16000
12500
10000
8000

QASPL 92.8 94.9 93.7 96.1 97.0 95.8 95.8 99.3 105.0 109.5 108.6 103.0 99.2 187.6
PNLT 98.2 100.9 100.0 102.9 103.9 103.0 103.1 106.2 110.9 114.0 111.6 104.9 101.2
DBA 88.1 90.7 90.0 92.9 93.8 92.9 93.3 96.6 100.8 102.4 99.8 92.8 89.8

MODEL AREA = 131.5 SQ CM (20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9
NASA SHOCK CELL/CIRCULAR C-D NO2/AX/SC-2/NAS3-22514

VEHICL = ADH711 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CONFIG = 2 TAMB F = 73.00 EXT CONFIG = SL MIKE HT = 29.25 RELHUM = 65.6 PCT
IAPLHA = SB59 IEGA = NO MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = 29.25 RELHUM = 65.6 PCT
WIND DIR = DEG WIND VEL =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2462.3 FPS AE8 = 20.4 SQ IN
FNRAMB = LBS XNLR RPM XNH XNHR = RPM V8 = 2462.3 FPS AE8 = 20.4 SQ IN

RUNPT = 82F-400-0222 TAPE = X02221 TEST PT NO = 0222 NC = AE039 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0223 X0223C

BACKGROUND 000000000000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 94.4 89.5 85.0 88.0 87.6 84.7 86.6 86.3 95.0 95.1 94.4 94.4 95.3 133.6

63 93.5 90.5 88.8 93.1 93.7 92.0 91.7 89.3 99.0 98.4 97.7 98.3 99.1 137.2

80 92.8 95.8 90.4 94.7 95.2 94.4 94.7 97.9 97.6 97.9 99.8 104.0 105.4 139.9

100 93.8 95.8 90.4 94.7 95.2 94.4 94.7 97.9 97.6 97.9 99.8 104.0 105.4 139.9

125 89.9 90.1 90.4 94.2 95.8 94.9 94.3 95.7 97.4 99.2 106.4 108.5 142.8

150 89.0 87.1 88.3 90.6 90.5 91.1 93.0 94.4 97.6 101.7 107.0 109.5 112.6 144.1

160 89.0 87.1 88.3 90.6 90.5 91.1 93.0 94.4 97.6 101.7 107.0 109.5 112.6 144.1

200 90.5 90.3 87.6 92.4 94.2 94.1 94.0 97.6 103.1 103.9 108.8 113.0 114.9 146.8

250 89.5 92.6 90.1 93.9 93.5 94.1 96.5 100.1 103.3 109.2 113.8 116.7 116.6 150.1

315 90.3 91.9 89.1 93.2 95.8 95.4 96.5 99.7 105.9 111.4 116.1 118.0 118.2 151.8

400 91.8 93.1 90.1 94.7 95.8 94.9 97.5 100.4 107.9 114.9 119.1 119.5 117.7 153.7

500 92.9 94.2 91.0 95.5 96.9 96.9 97.0 102.8 109.7 117.6 120.9 119.6 117.3 155.0

630 95.3 96.1 92.9 96.9 98.2 98.6 100.0 103.9 112.4 120.7 121.8 120.2 117.5 156.4

800 98.4 96.7 95.0 98.8 99.1 99.5 103.4 114.5 122.8 122.2 119.9 117.5 157.5

1000 103.4 104.2 98.5 102.0 101.6 103.4 107.5 116.3 124.3 123.0 119.9 116.8 158.5

1250 106.2 107.2 103.3 105.6 105.1 103.3 103.9 109.3 117.5 124.1 123.5 118.1 116.2 158.7

1500 110.0 107.0 103.8 105.1 104.4 103.0 105.1 110.4 117.8 123.1 122.0 116.9 113.9 157.8

1600 110.0 107.0 103.8 105.1 104.4 103.0 105.1 110.4 117.8 123.1 122.0 116.9 113.9 157.8

2000 108.9 109.8 106.0 108.1 107.4 104.8 106.5 111.1 118.0 123.2 120.5 116.1 112.3 157.6

2500 107.4 108.2 105.5 109.0 109.8 107.4 106.1 111.7 117.4 122.9 119.4 114.7 111.0 157.2

3150 105.3 107.3 105.1 108.4 109.2 109.3 108.9 111.6 117.9 121.5 118.3 113.4 109.7 156.5

4000 103.8 105.3 103.5 107.1 107.9 107.0 106.5 109.2 112.7 115.9 118.6 115.9 109.9 154.5

5000 102.2 103.6 102.1 105.3 107.0 106.5 106.1 111.7 117.4 122.9 119.4 114.7 111.0 157.2

6300 100.2 103.2 101.6 104.6 106.3 107.0 107.3 112.4 115.4 117.8 115.1 109.1 105.4 154.1

8000 99.1 101.1 100.1 103.2 105.5 105.8 106.7 111.1 114.8 116.6 113.4 112.7 105.7 153.3

10000 97.8 100.1 99.8 102.8 105.8 105.8 107.0 110.5 113.4 115.8 112.7 105.7 102.4 153.1

12500 96.0 97.5 97.5 100.8 104.0 103.7 104.8 108.5 112.1 114.4 110.8 104.0 100.0 152.3

16000 93.3 95.1 95.6 98.1 101.7 101.6 103.0 106.3 110.5 112.2 108.5 101.4 96.7 151.5

20000 91.2 93.0 93.8 95.1 98.6 99.3 100.7 104.1 108.0 110.5 107.4 101.6 96.5 150.4

25000 86.1 89.3 93.8 91.6 95.7 96.5 97.9 101.8 104.8 107.4 101.6 96.5 93.0 151.1

31500 83.4 85.9 91.0 88.8 92.1 92.7 94.4 98.3 101.7 105.8 99.6 97.4 89.5 152.7

40000 88.2 81.7 90.6 84.1 88.8 89.0 90.5 95.2 98.9 103.9 97.4 89.5 79.7 152.7

50000 84.7 78.2 86.4 78.6 83.7 85.0 85.2 90.1 95.8 100.4 93.2 85.2 74.2 153.4

63000 72.3 76.4 86.9 73.3 78.6 79.8 80.7 85.9 91.6 97.0 88.9 79.8 69.0 155.0

80000 78.0 72.2 85.5 66.9 72.1 74.1 75.1 80.9 86.2 92.2 83.7 74.4 61.3 157.2

DBA 116.9 117.4 114.5 117.4 118.1 117.3 118.0 122.3 128.0 133.3 131.8 128.1 125.5

PWL 128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

PWL 128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

DBA 116.9 117.4 114.5 117.4 118.1 117.3 118.0 122.3 128.0 133.3 131.8 128.1 125.5

NASA SHOCK CELL/CIRCULAR C-D NO2/AX/SC-2/NAS3-22514

VEHICLE = ADH730 TEST DATE = 03-17-82
IAPLHA = SB59 PWL AREA = FULL SPHERE EXT DIST = 40.0 FT
WIND DIR = SB59 DEG WIND VEL = NO MPH
FNRAMB = LBS XNLR RPM XNHR RPM
FNINI = LBS XNL RPM XNH RPM
CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0223 X0223F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREQ 50 50.4 59.5 65.0 67.6 84.7 86.6 86.3 95.0 95.1 94.4 94.4 95.3 133.6

63 93.5 90.5 89.8 93.1 93.7 92.0 91.7 89.3 99.0 98.4 97.7 98.4 99.1 137.2

80 92.8 88.8 88.8 92.6 93.5 93.5 93.5 94.9 96.6 98.2 98.3 98.3 98.3 137.5

100 93.3 95.8 90.4 94.7 95.2 94.4 94.7 97.6 97.9 99.8 104.0 105.4 139.9

125 89.9 90.1 90.4 94.2 95.8 94.9 94.3 95.7 97.4 99.2 106.4 109.5 142.8

160 89.0 87.1 88.3 90.6 91.1 93.0 94.4 97.6 101.7 107.0 109.5 112.6 144.1

200 90.5 90.3 87.6 92.4 94.2 94.1 94.0 97.6 103.1 103.9 108.8 113.0 146.8

250 89.5 92.6 90.1 93.9 93.5 94.1 96.5 100.1 103.3 109.2 113.8 116.7 150.1

315 90.3 91.9 89.1 93.2 95.8 95.4 96.5 99.7 105.9 111.4 116.1 118.0 151.8

400 91.8 93.1 90.1 94.7 95.8 94.9 97.5 100.4 107.9 114.9 119.1 117.7 153.7

500 92.9 94.2 91.0 95.5 96.9 97.0 97.9 102.8 109.7 117.6 120.9 119.6 155.0

630 95.3 96.1 92.9 96.9 98.2 98.6 100.0 103.9 112.4 120.7 121.8 120.2 156.4

800 96.4 98.1 95.0 98.8 99.1 99.5 102.1 106.3 114.5 122.2 119.9 117.5 157.5

1000 103.4 104.2 98.5 102.0 101.6 101.5 103.4 107.5 116.3 124.3 123.0 119.9 158.5

1250 106.2 107.2 103.3 105.6 105.1 103.3 103.9 109.3 117.5 124.1 123.5 118.1 158.7

1500 108.9 109.8 106.0 108.1 107.4 104.8 106.5 111.1 118.0 123.2 120.5 116.1 157.6

2000 107.4 108.2 105.5 109.0 109.6 107.4 104.8 106.5 111.1 117.4 122.9 119.4 157.2

2500 107.4 108.2 105.5 109.0 109.6 107.4 104.8 106.5 111.1 117.4 122.9 119.4 157.2

3150 105.3 107.3 105.1 108.4 109.2 109.3 108.9 111.6 117.9 121.5 118.3 113.4 156.5

4000 103.8 105.3 103.5 107.1 107.9 108.1 109.2 112.6 116.7 120.1 117.1 108.4 155.5

5000 102.2 103.6 102.1 105.3 107.0 106.5 108.4 112.7 115.9 118.6 115.9 109.9 154.5

6300 100.2 103.2 101.6 104.6 106.3 107.0 107.3 112.4 115.4 117.8 115.1 109.1 154.1

8000 99.1 101.1 100.1 103.2 105.5 105.8 106.7 111.1 114.8 116.6 113.6 107.1 153.3

10000 97.8 100.1 99.8 102.8 105.5 105.8 106.7 111.1 114.8 116.6 113.6 107.1 153.3

12500 96.0 97.5 97.5 100.8 104.0 103.7 104.8 108.5 112.1 114.4 110.8 104.0 152.3

15000 93.3 95.1 95.6 98.1 101.7 101.6 103.0 106.3 110.5 112.2 108.5 101.4 151.5

20000 91.2 93.0 94.1 96.1 98.6 96.3 100.7 104.1 108.0 110.5 105.7 99.0 151.1

25000 86.1 89.3 93.8 91.6 95.7 96.5 97.9 101.8 104.8 107.4 101.6 96.5 150.4

31500 83.4 85.9 91.0 88.8 92.1 92.7 94.4 98.3 101.7 105.8 99.6 93.0 151.1

40000 88.2 81.7 90.6 84.1 88.8 90.0 90.5 95.2 98.9 103.9 97.4 89.5 152.7

50000 84.7 78.2 88.4 78.6 83.7 85.0 85.2 90.1 95.8 100.4 93.2 85.2 153.4

63000 72.3 76.4 86.9 73.3 78.6 79.8 80.7 85.9 91.6 97.0 88.9 79.8 155.0

80000 78.0 72.2 85.5 66.9 72.1 74.1 75.1 80.9 86.2 92.2 83.7 74.4 157.2

QASPL 116.3 116.9 114.2 117.1 118.0 117.5 118.3 122.5 127.9 133.2 132.2 129.5 127.6 169.4

PNL 128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

PNL 128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

DBA 198.3 193.4 206.2 189.1 194.2 196.0 196.9 202.4 207.9 213.6 205.3 196.2 184.1

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH730 TEST DATE = 03-17-82 LOCAT = C41 ANECH CH CONFIG = 2
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 53.00
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = 29.55
FNIN1 = LBS XNL RPM XNHR = RPM V8 = 2508.1 FPS AE8 = 20.4 SQ IN
FNRAMB = LBS XNL RPM XNHR = RPM V8 = 2508.1 FPS AE8 = 20.4 SQ IN
RUNPT = 82F-ZER-0223 TAPE = X0223F TEST PT NO = 0223 NC = AE041 CORR FAN SPEED = RPM

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OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 8ZF-ZER-0223 X02231

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 70.8 73.6 71.7 76.9 76.4 77.7 80.2 82.7 89.4 95.4 98.0 96.2 91.1 172.1

63 71.8 74.7 72.5 77.8 79.5 79.8 80.5 85.0 91.3 98.0 99.8 96.3 90.6 173.3

80 74.1 76.5 74.3 79.1 80.8 81.3 82.6 86.1 93.8 101.1 100.7 96.9 90.9 174.8

100 77.2 77.1 76.4 80.9 81.7 82.2 84.7 88.4 95.9 103.1 101.0 96.4 90.6 175.8

125 82.1 84.5 79.6 84.1 84.1 84.1 85.9 89.6 97.6 104.6 101.6 96.2 89.6 176.9

150 84.7 87.3 84.5 87.5 87.5 87.5 89.4 93.3 91.2 98.7 104.2 101.9 94.3 177.0

200 86.2 86.9 86.8 86.9 86.6 87.3 87.3 89.2 98.8 103.0 100.2 92.7 85.9 176.2

250 86.8 89.4 86.7 89.7 89.4 87.0 86.5 92.7 98.7 102.8 98.4 91.5 83.7 176.0

315 84.9 87.4 85.9 90.3 91.6 89.3 87.9 93.0 97.8 102.1 96.9 89.5 81.5 175.6

400 82.2 86.2 85.2 89.3 90.6 90.9 90.3 92.6 98.1 100.4 95.3 87.6 79.3 174.9

500 80.2 83.7 83.3 87.7 89.1 89.4 90.4 93.5 96.5 98.6 93.6 85.2 77.0 173.9

630 78.2 81.6 81.6 85.7 87.9 87.5 89.3 93.1 95.4 96.6 91.9 82.7 73.9 172.8

800 75.7 80.9 80.8 84.7 86.9 87.8 87.9 92.5 94.6 95.5 90.6 81.3 71.7 172.5

1000 74.2 78.5 79.0 83.1 86.0 86.5 87.2 91.0 93.7 94.0 88.7 76.3 69.2 171.7

1250 72.4 77.1 78.5 82.6 85.9 86.3 87.4 90.3 92.1 92.9 87.3 76.3 66.2 171.5

1500 69.7 74.0 75.8 80.2 84.1 84.0 84.9 87.9 90.4 90.8 84.5 73.3 61.4 170.6

2000 66.1 71.0 73.5 77.3 81.6 81.8 82.9 85.5 88.4 88.0 81.2 69.1 55.1 169.9

2500 62.1 67.6 71.1 73.6 77.9 79.0 80.0 82.6 85.0 85.1 76.6 63.9 47.1 169.4

3150 53.7 61.5 69.0 68.6 73.7 74.8 75.9 78.7 80.0 79.6 69.1 56.4 35.0 168.7

4000 44.7 53.4 62.3 62.5 67.1 68.1 69.4 72.0 73.0 73.3 61.0 44.0 26.8 169.4

5000 39.7 41.6 55.7 52.4 58.9 59.5 60.6 63.4 64.0 63.8 49.0 27.0 171.8

6300 18.5 23.9 36.1 41.5 45.7 45.1 47.6 48.9 46.1 27.0 171.8

8000 173.4 173.4 173.4 173.4 173.4 173.4 173.4 173.4 173.4 173.4 173.4 173.4 173.4 173.4

10000 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6

12500 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6

15000 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6

20000 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6

25000 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6

31500 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6

40000 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6

50000 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6

63000 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6

80000 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6 175.6

QASPL 93.9 96.0 94.3 98.0 99.2 98.7 99.4 103.2 108.2 112.7 110.1 104.8 98.7 187.6

PWL 97.8 100.7 100.2 103.8 105.8 105.8 106.4 109.8 113.9 116.8 112.5 105.0 97.6

PNL 99.6 100.7 100.2 103.8 105.8 105.8 106.4 109.8 113.9 116.8 112.5 105.0 97.6

DBA 86.5 89.8 89.4 93.3 95.5 95.6 96.3 99.8 102.9 104.9 100.2 92.1 84.4

MODEL AREA = 131.5 SQ CM (20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.286 FREQ SHIFT = -9

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH730 TEST DATE = 03-17-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 53.00 MIKE HT = 29.55 RELHUM = 69.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL NBFR =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2508.1 FPS AE8 = 20.4 SQ IN
FNRAMB = LBS XNLR = RPM XNH XNHR = RPM V8 = 2508.1 FPS AE8 = 20.4 SQ IN

RUNPT = ZER-0223 TAPE = X02231 TEST PT NO = 0223 NC = AE041 CORR FAN SPEED = RPM

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OF POOR QUALITY

DATPROC - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARCIDENTIFICATION - MODEL 82F-400-0224 X0224C
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 89.3 87.3 85.4 86.4 84.1 85.6 93.1 91.7 94.5 102.8 102.4 102.8 98.0 138.5

63 89.6 89.4 92.0 90.7 89.0 88.1 96.6 94.5 96.1 100.1 101.0 102.2 101.7 138.7

80 91.2 95.0 88.6 92.8 92.3 92.4 94.5 94.5 96.6 97.1 101.2 101.5 104.5 140.2

100 90.3 94.8 89.0 92.6 93.7 92.5 95.2 94.5 94.9 95.9 101.2 104.3 106.8 141.6

125 87.6 88.8 87.8 91.6 93.2 93.1 94.5 94.5 95.9 95.9 101.2 104.3 106.8 141.6

150 86.5 84.2 87.0 88.6 88.1 88.5 92.7 91.6 95.3 102.1 105.8 108.0 111.4 142.9

200 87.3 85.5 88.5 90.1 89.3 93.2 95.1 98.8 102.9 106.3 110.5 113.1 114.4 144.6

250 87.0 88.8 86.5 89.8 89.9 90.5 94.7 96.8 99.1 105.6 110.8 114.5 114.4 147.5

315 87.0 87.8 86.3 90.1 91.2 91.6 93.5 95.9 101.6 108.4 113.6 116.0 116.2 149.5

400 88.3 89.3 89.8 90.9 91.7 91.1 93.7 96.6 102.9 110.9 116.1 117.3 114.7 150.7

500 88.9 90.0 88.2 92.3 93.1 93.7 95.1 98.3 104.7 114.6 118.5 117.4 112.0 152.1

630 90.8 91.3 89.8 93.4 94.2 94.6 97.0 100.6 107.1 117.4 120.1 117.5 109.9 153.6

800 93.4 92.7 91.7 94.8 95.6 95.8 98.6 103.0 109.8 119.1 121.2 116.4 108.8 154.6

1000 98.5 97.5 95.3 98.1 97.6 97.3 100.1 104.8 111.5 121.1 122.2 115.9 107.3 155.9

1250 102.5 104.0 100.3 102.3 101.4 99.8 101.9 106.3 113.5 122.4 122.2 114.9 108.9 156.6

1600 106.3 103.8 102.4 103.6 102.6 102.6 104.5 108.4 115.5 123.0 122.0 114.6 107.4 157.3

2000 105.2 106.6 105.2 107.4 106.4 102.6 104.5 108.4 115.5 123.0 122.0 114.6 107.4 157.3

2500 103.4 104.4 103.5 107.0 107.8 105.4 104.4 109.2 114.9 122.4 120.7 113.2 106.7 156.5

3150 101.5 103.0 101.6 104.8 106.7 106.7 107.9 109.6 115.9 121.0 119.0 110.7 104.9 155.0

4000 100.0 101.7 100.5 103.3 104.4 104.1 107.7 112.0 115.1 120.3 118.1 110.7 104.9 155.0

5000 98.9 100.7 99.0 102.2 103.4 102.9 106.0 110.8 114.8 118.2 117.3 109.1 103.1 153.8

6300 97.5 99.7 98.2 101.2 102.8 103.3 105.6 111.3 115.0 117.6 116.0 110.0 102.2 153.6

8000 96.9 97.5 97.0 99.9 102.4 102.3 104.7 109.5 114.0 116.6 114.8 107.1 101.7 152.8

10000 95.2 96.9 96.4 99.9 101.9 101.9 104.7 109.6 113.0 115.8 113.3 106.0 100.1 152.5

12500 92.9 94.1 94.1 97.9 100.2 100.4 102.2 107.4 110.7 113.4 111.4 104.5 98.2 151.2

16000 89.9 92.0 91.2 95.1 97.9 98.9 100.4 103.7 109.4 111.4 108.6 101.4 95.7 150.5

20000 87.3 89.0 87.6 92.4 95.7 96.1 102.7 106.8 109.4 105.7 98.4 92.6 149.8

25000 85.4 84.4 84.9 88.5 92.1 93.5 95.6 99.4 101.7 102.6 99.9 96.5 88.9 147.1

31500 79.1 79.1 79.9 84.8 88.0 89.4 91.6 96.0 99.4 101.7 98.8 92.2 85.0 148.0

40000 74.3 76.3 76.9 80.1 84.5 85.9 88.0 93.4 97.7 100.8 97.2 89.4 82.0 150.3

50000 71.4 71.1 70.1 73.9 74.6 75.0 78.5 85.0 92.9 98.6 93.5 79.3 75.4 156.4

63000 71.2 70.9 74.0 73.7 71.7 75.1 76.2 85.4 92.0 100.7 91.7 75.1 70.8 164.3

80000 71.2 70.9 74.0 73.7 71.7 75.1 76.2 85.4 92.0 100.7 91.7 75.1 70.8 164.3

CASPL 112.6 113.7 112.0 114.6 115.2 114.3 116.5 120.7 125.6 131.9 131.9 127.2 123.5 169.4

PWL 125.1 126.3 124.8 127.9 128.7 128.1 130.0 133.9 138.5 144.4 143.7 138.1 133.1

DBA 113.2 114.2 112.5 115.0 115.5 114.3 116.2 120.4 125.7 132.2 131.9 125.7 119.8

NASA SHOCK CELL/CIRCULAR C-D NO2/AX/SC-2/NAS3-22514

VEHICL = ADH710 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE EXT DIST = 40.0 FT TAMB F = 73.00 MIKE HT = 29.25 RELHUM = 65.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC NBFR =FNINI = LBS XNL RPM XNHR = RPM V8 = 2527.9 FPS AEB = 20.4 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2527.9 FPS AEB = 20.4 SQ IN

RUNPT = 82F-400-0224 TAPE = X0224C TEST PT NO = 0224 NC = AE039 CORR FAN SPEED = RPM

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OF POOR QUALITY

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DATPRC - FLTKAN

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0224 X0224F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|
| PWL | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 200 | 92.8 | 93.6 | 90.3 | 92.4 | 91.1 | 90.5 | 92.6 | 93.2 | 98.2 | 104.1 | 108.7 | 111.6 | 113.6 | 145.6 |
| 250 | 92.8 | 93.6 | 90.3 | 92.4 | 91.8 | 92.1 | 93.1 | 99.6 | 106.9 | 111.6 | 113.6 | 113.5 | 147.3 | |
| 315 | 92.8 | 93.6 | 90.3 | 92.4 | 93.0 | 91.8 | 92.4 | 93.9 | 103.2 | 112.5 | 116.4 | 116.7 | 114.8 | 150.9 |
| 400 | 94.4 | 94.0 | 91.1 | 93.4 | 91.3 | 92.4 | 93.0 | 99.4 | 102.8 | 112.6 | 121.2 | 117.9 | 119.4 | 156.5 |
| 500 | 94.3 | 94.5 | 92.0 | 93.8 | 95.0 | 94.4 | 96.6 | 105.4 | 115.4 | 118.3 | 117.8 | 115.0 | 152.6 | |
| 630 | 96.4 | 96.3 | 93.1 | 95.7 | 96.1 | 95.0 | 96.1 | 98.6 | 108.3 | 117.4 | 120.0 | 118.1 | 116.6 | 154.1 |
| 800 | 97.6 | 97.8 | 94.5 | 96.7 | 96.0 | 97.8 | 101.0 | 110.3 | 119.7 | 121.5 | 118.6 | 117.3 | 115.6 | |
| 1000 | 99.2 | 97.8 | 95.8 | 97.7 | 99.3 | 97.9 | 99.4 | 102.8 | 112.6 | 121.2 | 121.8 | 117.9 | 119.4 | 156.5 |
| 1250 | 104.6 | 102.5 | 99.1 | 100.7 | 103.2 | 100.6 | 101.3 | 104.5 | 113.6 | 121.2 | 122.7 | 118.1 | 118.1 | 156.9 |
| 1600 | 109.1 | 109.4 | 104.4 | 105.2 | 104.4 | 101.3 | 103.0 | 106.0 | 114.8 | 122.0 | 121.7 | 117.7 | 118.0 | 157.1 |
| 2000 | 113.3 | 112.1 | 108.3 | 107.7 | 108.6 | 103.8 | 104.4 | 106.9 | 114.6 | 121.6 | 120.7 | 117.8 | 117.1 | 157.1 |
| 2500 | 110.6 | 111.2 | 109.0 | 110.3 | 110.7 | 107.1 | 104.6 | 108.1 | 116.3 | 121.2 | 119.9 | 116.6 | 118.7 | 157.0 |
| 3150 | 110.8 | 110.9 | 108.8 | 111.1 | 109.9 | 108.8 | 108.5 | 109.1 | 116.0 | 120.8 | 119.0 | 114.8 | 116.5 | 156.5 |
| 4000 | 109.1 | 109.7 | 108.1 | 109.2 | 108.6 | 107.5 | 107.5 | 108.9 | 115.9 | 118.6 | 118.2 | 114.2 | 114.6 | 155.4 |
| 5000 | 107.5 | 108.4 | 106.2 | 107.9 | 107.5 | 105.9 | 107.5 | 110.9 | 115.9 | 116.9 | 114.2 | 113.9 | 115.0 | |
| 6300 | 106.3 | 107.4 | 104.8 | 107.1 | 106.9 | 106.3 | 107.1 | 111.3 | 115.1 | 117.2 | 116.0 | 111.5 | 113.5 | 154.4 |
| 8000 | 104.8 | 106.3 | 103.8 | 105.9 | 106.5 | 105.3 | 106.2 | 109.6 | 114.2 | 116.5 | 114.4 | 110.2 | 111.4 | 153.7 |
| 10000 | 103.0 | 102.6 | 104.5 | 102.6 | 104.9 | 106.1 | 109.6 | 112.2 | 114.5 | 112.9 | 110.4 | 106.3 | 107.6 | 151.9 |
| 12500 | 102.0 | 101.6 | 104.2 | 104.6 | 103.4 | 103.7 | 107.5 | 111.3 | 112.9 | 110.4 | 109.2 | 110.3 | 107.6 | 151.9 |
| 16000 | 102.1 | 102.0 | 100.6 | 102.8 | 102.5 | 101.9 | 101.9 | 105.3 | 109.1 | 111.2 | 107.9 | 103.6 | 104.7 | 151.3 |
| 20000 | 98.6 | 99.4 | 97.2 | 99.5 | 100.3 | 99.2 | 99.5 | 102.7 | 105.2 | 105.8 | 103.7 | 103.7 | 103.7 | 149.6 |
| 25000 | 95.4 | 95.8 | 93.0 | 96.3 | 96.7 | 96.5 | 97.5 | 99.9 | 103.1 | 104.9 | 102.4 | 98.8 | 98.5 | 149.6 |
| 31500 | 92.7 | 90.5 | 89.5 | 91.6 | 92.6 | 92.4 | 93.1 | 96.0 | 102.3 | 104.9 | 101.6 | 96.6 | 96.4 | 151.1 |
| 40000 | 85.6 | 86.3 | 83.7 | 87.0 | 89.1 | 88.9 | 89.4 | 93.3 | 100.2 | 103.4 | 99.8 | 92.2 | 92.5 | 152.9 |
| 50000 | 80.4 | 81.1 | 80.3 | 81.9 | 84.1 | 85.0 | 83.9 | 88.5 | 98.8 | 104.0 | 99.2 | 88.0 | 91.1 | 156.7 |
| 63000 | 79.2 | 75.8 | 76.0 | 76.4 | 79.2 | 82.0 | 79.9 | 85.0 | 99.4 | 107.6 | 98.9 | 85.3 | 87.9 | 164.3 |
| 80000 | 75.0 | 73.5 | 71.0 | 73.3 | 75.7 | 78.1 | 77.6 | 85.4 | 89.6 | 97.8 | 89.1 | 75.5 | 78.1 | 161.7 |
| DBA | 196.2 | 194.5 | 192.6 | 194.4 | 196.9 | 199.3 | 198.5 | 205.9 | 212.7 | 220.8 | 212.2 | 198.9 | 201.5 | |
| PWL | 131.9 | 132.0 | 129.6 | 131.5 | 131.0 | 129.4 | 129.9 | 132.8 | 138.2 | 143.3 | 142.6 | 139.4 | 140.6 | |
| PNL | 131.9 | 132.0 | 129.6 | 131.5 | 131.0 | 129.4 | 129.9 | 132.8 | 138.2 | 143.3 | 142.6 | 139.4 | 140.6 | |
| GASPL | 119.4 | 119.5 | 116.8 | 118.4 | 118.3 | 116.4 | 117.1 | 120.2 | 125.9 | 131.3 | 131.4 | 128.3 | 128.6 | 170.3 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

| VEHICL | TEST DATE | LOCAT | C41 ANECH CH | CONFIG | MODEL | AX | FLTVEL | 400. FPS |
|----------|-----------|----------|--------------|----------|---------|----|------------|----------|
| ADH710 | 03-16-82 | | | 2 | | | | |
| IAPLHA | SB59 | NO | | | | | | |
| WIND DIR | DEG | WIND VEL | MPH | EXT DIST | 40.0 FT | | | |
| FNIN1 | LBS | XNLR | RPM | XNHR | RPM | V8 | 2527.9 FPS | AE8 |
| FNAMB | LBS | XNLR | RPM | XNHR | RPM | V8 | 2527.9 FPS | AE8 |
| | | | | | | | 20.4 SQ IN | |
| | | | | | | | 0. SQ IN | |

CORR FAN SPEED = RPM

TEST PT NO = 0224 NC = AE039

CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0224 X02241

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 73.8 74.4 72.7 75.7 76.0 74.1 75.1 76.2 84.7 93.0 95.3 93.4 88.2 169.3

60 73.2 75.0 73.5 76.0 77.6 76.8 77.0 78.8 86.9 95.8 97.2 94.5 88.3 171.0

80 75.3 76.6 74.6 77.9 78.7 77.7 78.7 80.8 89.8 97.8 98.9 94.7 89.9 172.5

100 76.3 77.5 75.9 78.8 79.9 78.7 80.4 83.2 91.7 100.0 100.3 95.2 90.6 174.0

125 77.9 78.0 77.2 79.8 81.7 80.5 81.9 84.9 93.9 101.5 100.4 94.3 92.3 174.8

160 83.1 82.6 80.3 82.6 85.5 83.1 83.7 86.5 94.8 101.3 101.2 94.2 90.6 175.2

200 87.3 89.3 85.4 86.9 86.6 83.7 85.2 87.8 95.8 101.9 99.9 93.5 90.0 175.5

250 91.2 91.7 89.1 89.3 90.6 86.0 86.4 88.5 95.4 101.4 98.6 97.4 89.2 175.4

315 88.1 90.5 89.5 91.6 92.5 88.9 86.3 89.4 96.8 100.5 97.4 91.5 86.1 175.4

400 87.7 89.7 88.9 92.1 91.4 90.4 90.0 90.0 96.1 99.6 96.0 89.0 86.1 174.9

500 85.6 88.2 86.9 89.9 89.2 88.0 90.0 92.6 95.5 97.1 94.6 86.7 83.2 173.8

630 83.5 86.5 85.7 88.3 88.4 87.0 88.4 91.3 95.4 96.2 92.9 87.1 81.4 173.4

800 81.8 85.1 84.0 87.2 87.5 87.1 87.7 91.4 94.2 94.9 91.5 83.6 79.9 172.7

1000 79.9 83.7 82.8 85.8 87.0 85.9 86.7 89.5 93.1 93.9 89.5 81.7 76.6 172.0

1250 78.6 81.0 81.3 84.2 86.3 85.5 86.4 89.4 91.0 91.5 87.5 79.9 74.1 171.2

1600 75.7 79.5 83.6 84.9 83.7 83.8 86.9 89.6 89.4 84.1 84.1 75.6 69.0 170.3

2000 74.8 77.9 78.5 82.0 82.4 82.0 81.8 84.5 87.0 87.1 80.6 71.3 63.1 169.7

2500 69.5 74.1 74.2 78.0 79.7 78.9 78.8 81.2 82.2 80.4 74.7 68.5 57.2 168.0

3150 63.0 68.1 68.2 73.2 74.7 74.8 75.5 76.9 78.2 77.1 69.9 58.7 43.6 167.9

4000 54.0 58.0 60.9 65.3 67.6 67.8 68.1 69.7 73.6 72.3 62.9 47.5 27.0 169.5

5000 37.1 46.2 48.8 55.3 59.1 59.4 59.4 61.6 65.3 63.3 51.4 29.4 1.2 171.3

6300 14.2 26.8 33.3 39.4 44.0 45.7 43.8 46.0 51.9 49.7 33.0 1.2 175.0

8000 180.0

10000 182.7

12500 175.0

15000 160.0

18000 160.0

20000 160.0

25000 160.0

30000 160.0

35000 160.0

40000 160.0

45000 160.0

50000 160.0

55000 160.0

60000 160.0

65000 160.0

70000 160.0

75000 160.0

80000 160.0

85000 160.0

90000 160.0

95000 160.0

100000 160.0

HONEYWELL PAGE PRINTING SYSTEM - P1185-07

UNIT

ORIGINAL PAGE IS
OF POOR QUALITY

VEHICL = ADH710 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CONFIO = 2 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NG PWL AREA = FULL SPHERE TAMB F = 73.00 PAMB HG = 29.25 RELHUM = 65.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIO = SL MIKE HT = NBFR =
FNINI = LBS XNL = RPM XNHR = V6 = 2527.9 FPS AE8 = 20.4 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = V6 = 2527.9 FPS AE8 = 20.4 SQ IN
RUNPT = 82F-400-0224 TAPE = X02241 TEST PT NO = 0224 NC = AE039 CORR FAN SPEED = RPM

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514
MODEL AREA = 131.5 SQ CM (20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9
OASPL 96.5 98.3 96.8 99.1 99.6 97.7 98.2 100.7 106.0 110.7 109.3 103.8 100.0 188.6
PNL 101.8 103.7 102.8 105.8 106.3 105.0 105.2 107.7 112.0 115.1 112.2 105.7 101.8
FNL 102.3 103.7 103.4 105.8 106.3 105.0 105.2 107.7 112.0 115.1 112.9 106.8 102.8
DBA 91.1 93.7 92.8 95.6 96.2 94.9 95.5 98.3 101.8 103.7 100.5 93.6 90.0

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0226 X0226C
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.
PWL

| | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 84.0 | 82.9 | 80.7 | 79.6 | 83.3 | 78.5 | 82.7 | 84.2 | 87.6 | 96.1 | 90.9 | 95.9 | 130.2 |
| 63 | 85.8 | 84.4 | 80.9 | 88.4 | 88.1 | 83.8 | 92.7 | 89.8 | 90.3 | 92.0 | 97.9 | 92.0 | 133.4 |
| 80 | 86.2 | 91.1 | 84.4 | 88.1 | 87.0 | 88.1 | 87.6 | 89.3 | 91.2 | 88.6 | 92.6 | 94.2 | 132.2 |
| 100 | 85.1 | 89.2 | 84.0 | 87.9 | 89.0 | 87.9 | 87.9 | 87.8 | 91.3 | 91.7 | 94.4 | 98.2 | 134.0 |
| 125 | 83.2 | 85.3 | 84.2 | 88.2 | 89.4 | 89.3 | 88.7 | 89.6 | 91.1 | 92.4 | 99.1 | 102.0 | 136.4 |
| 160 | 81.6 | 79.8 | 83.2 | 85.0 | 84.5 | 84.1 | 85.5 | 86.2 | 89.7 | 93.9 | 100.0 | 102.7 | 137.3 |
| 200 | 82.3 | 81.9 | 81.9 | 84.4 | 85.2 | 85.9 | 86.3 | 90.0 | 94.5 | 94.9 | 101.0 | 105.7 | 139.4 |
| 250 | 80.9 | 84.2 | 82.6 | 85.5 | 86.3 | 86.9 | 87.3 | 91.3 | 94.3 | 100.1 | 106.0 | 109.5 | 142.4 |
| 315 | 82.0 | 84.0 | 82.5 | 85.9 | 87.2 | 88.1 | 88.4 | 91.9 | 96.9 | 103.2 | 108.3 | 110.0 | 143.8 |
| 400 | 83.3 | 85.3 | 86.9 | 87.9 | 87.5 | 88.9 | 92.6 | 98.6 | 106.2 | 111.1 | 112.3 | 108.2 | 145.6 |
| 500 | 84.9 | 86.2 | 87.5 | 89.3 | 89.4 | 90.3 | 93.7 | 100.5 | 108.8 | 113.5 | 112.4 | 105.5 | 147.0 |
| 630 | 85.3 | 88.1 | 89.5 | 91.1 | 90.5 | 91.1 | 92.2 | 96.6 | 102.6 | 112.7 | 115.3 | 112.0 | 148.7 |
| 800 | 87.9 | 88.5 | 87.7 | 91.0 | 91.9 | 92.5 | 94.4 | 98.0 | 105.3 | 114.3 | 116.5 | 111.1 | 149.8 |
| 1000 | 92.5 | 92.7 | 90.5 | 93.5 | 93.9 | 93.7 | 95.6 | 100.3 | 106.8 | 116.1 | 117.7 | 110.1 | 151.1 |
| 1250 | 92.7 | 96.8 | 94.8 | 97.1 | 97.7 | 96.0 | 96.9 | 101.6 | 108.5 | 116.4 | 117.7 | 109.7 | 151.4 |
| 1600 | 97.3 | 95.8 | 94.3 | 96.1 | 96.8 | 96.8 | 96.8 | 102.9 | 109.1 | 115.9 | 118.8 | 109.7 | 151.8 |
| 2000 | 101.4 | 101.8 | 97.7 | 97.9 | 96.9 | 97.1 | 99.3 | 103.6 | 109.5 | 116.3 | 119.3 | 110.4 | 152.4 |
| 2500 | 102.2 | 103.0 | 101.5 | 103.0 | 100.8 | 97.7 | 98.6 | 104.0 | 109.4 | 116.2 | 117.7 | 109.7 | 151.8 |
| 3150 | 98.8 | 100.8 | 100.6 | 103.4 | 103.5 | 101.9 | 102.1 | 101.8 | 105.6 | 109.5 | 114.2 | 107.5 | 150.7 |
| 4000 | 96.0 | 97.5 | 96.3 | 99.8 | 101.9 | 102.1 | 101.8 | 105.6 | 109.5 | 114.2 | 114.4 | 107.5 | 149.9 |
| 5000 | 94.7 | 96.6 | 94.6 | 97.6 | 99.0 | 100.2 | 102.4 | 104.7 | 108.7 | 112.3 | 112.9 | 106.4 | 148.6 |
| 6300 | 92.4 | 94.7 | 93.8 | 96.3 | 97.5 | 99.2 | 101.0 | 105.4 | 108.9 | 111.3 | 111.6 | 104.4 | 148.1 |
| 8000 | 91.1 | 92.3 | 91.6 | 95.2 | 96.8 | 97.5 | 98.9 | 104.3 | 108.3 | 110.1 | 110.1 | 102.3 | 147.2 |
| 10000 | 89.5 | 91.8 | 91.1 | 94.3 | 96.3 | 97.0 | 99.3 | 104.0 | 107.7 | 109.3 | 108.5 | 101.4 | 146.9 |
| 12500 | 87.5 | 88.5 | 88.8 | 92.0 | 94.5 | 95.5 | 96.5 | 101.5 | 105.1 | 106.6 | 106.3 | 99.2 | 145.3 |
| 16000 | 84.9 | 85.9 | 85.4 | 89.2 | 91.7 | 92.7 | 95.0 | 98.7 | 103.3 | 104.5 | 103.8 | 96.2 | 144.4 |
| 20000 | 82.4 | 83.4 | 86.4 | 88.6 | 90.3 | 92.4 | 96.1 | 100.3 | 101.8 | 101.4 | 93.0 | 88.1 | 143.4 |
| 25000 | 77.0 | 78.8 | 81.8 | 83.0 | 85.6 | 87.1 | 89.1 | 92.7 | 96.0 | 96.4 | 96.3 | 84.0 | 141.3 |
| 31500 | 72.6 | 75.4 | 75.4 | 78.7 | 81.4 | 83.0 | 85.0 | 89.4 | 92.0 | 94.0 | 94.1 | 79.5 | 141.3 |
| 40000 | 68.2 | 70.9 | 74.1 | 74.6 | 77.2 | 79.0 | 80.6 | 85.4 | 88.4 | 91.6 | 92.3 | 74.6 | 142.5 |
| 50000 | 64.1 | 66.5 | 65.9 | 68.3 | 72.3 | 74.0 | 75.2 | 79.6 | 84.4 | 88.0 | 88.2 | 77.2 | 142.6 |
| 63000 | 60.1 | 63.2 | 60.3 | 63.3 | 67.2 | 68.3 | 69.3 | 73.3 | 79.2 | 86.8 | 84.5 | 70.6 | 145.0 |
| 80000 | 58.1 | 60.8 | 59.9 | 58.5 | 61.8 | 61.5 | 63.0 | 67.4 | 77.1 | 85.2 | 79.8 | 64.0 | 149.2 |
| GASPL | 108.0 | 109.1 | 107.5 | 109.8 | 110.2 | 109.9 | 111.0 | 115.1 | 120.0 | 125.8 | 127.8 | 122.2 | 117.9 |
| PNL | 121.8 | 122.9 | 121.5 | 124.1 | 124.4 | 123.7 | 124.3 | 128.2 | 132.9 | 138.2 | 140.0 | 133.9 | 128.4 |
| DBA | 108.7 | 109.7 | 108.0 | 110.3 | 110.4 | 109.8 | 110.8 | 114.9 | 120.0 | 126.1 | 128.0 | 121.0 | 114.5 |

NASA SHOCK CELL/CIRCULAR C-D NO2/AX/SC-2/NAS3-22514

VEHICL = ADH720 TEST DATE = 03-16-82 LOCAT = C41 ANECH CH CONFIO = 2 MODEL = AX FLVEL = 400. FPS
IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 77.00 MIKE HT = 29.25 RELHUM = 39.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIO = ARC NBFR =

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OF POOR QUALITY

FNINI = LBS XNL RPM XNH RPM V8 = 2234.5 FPS AE8 = 20.4 SQ IN
FNRAMB = LBS XNLR RPM XNHR RPM V18 = FPS AE18 = 0. SQ IN
RUNPT = 82F-400-0226 TAPE = X0226C TEST PT NO = 0226 NC = AE039 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0226 X0226F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

FREQ

63

50

100

125

160

200

250

315

400

500

630

800

1000

1250

1600

2000

2500

3150

4000

5000

6300

8000

10000

12500

16000

20000

25000

31500

40000

50000

63000

80000

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 88.2 | 90.3 | 87.3 | 88.7 | 87.8 | 86.9 | 85.4 | 87.7 | 93.4 | 98.8 | 103.4 | 105.6 | 107.3 | 139.9 | 88.2 | 90.3 | 87.3 | 88.7 | 87.8 | 86.9 | 85.4 | 87.7 | 93.4 | 98.8 | 103.4 | 105.6 | 107.3 | 139.9 |
| 88.2 | 90.3 | 87.3 | 88.7 | 87.8 | 86.9 | 85.4 | 87.7 | 93.4 | 98.8 | 103.4 | 105.6 | 107.3 | 142.7 | 88.2 | 90.3 | 87.3 | 88.7 | 87.8 | 86.9 | 85.4 | 87.7 | 93.4 | 98.8 | 103.4 | 105.6 | 107.3 | 142.7 |
| 89.7 | 90.4 | 87.4 | 89.2 | 89.7 | 88.1 | 88.1 | 90.6 | 98.8 | 106.7 | 111.4 | 111.9 | 107.7 | 145.7 | 89.7 | 90.4 | 87.4 | 89.2 | 89.7 | 88.1 | 88.1 | 90.6 | 98.8 | 106.7 | 111.4 | 111.9 | 107.7 | 145.7 |
| 90.2 | 91.2 | 87.9 | 90.1 | 89.7 | 89.5 | 92.0 | 100.5 | 110.2 | 113.1 | 111.9 | 108.5 | 107.7 | 147.1 | 90.2 | 91.2 | 87.9 | 90.1 | 89.7 | 89.5 | 92.0 | 100.5 | 110.2 | 113.1 | 111.9 | 108.5 | 107.7 | 147.1 |
| 92.1 | 92.3 | 89.0 | 90.8 | 92.4 | 91.5 | 94.4 | 103.5 | 112.2 | 114.8 | 112.3 | 109.0 | 148.6 | 92.1 | 92.3 | 89.0 | 90.8 | 92.4 | 91.5 | 94.4 | 103.5 | 112.2 | 114.8 | 112.3 | 109.0 | 148.6 | | |
| 93.0 | 94.5 | 90.6 | 92.6 | 93.9 | 93.0 | 93.4 | 95.8 | 105.4 | 114.4 | 116.7 | 112.5 | 150.4 | 93.0 | 94.5 | 90.6 | 92.6 | 93.9 | 93.0 | 93.4 | 95.8 | 105.4 | 114.4 | 116.7 | 112.5 | 150.4 | | |
| 95.5 | 94.8 | 92.7 | 94.6 | 95.5 | 94.8 | 98.2 | 107.4 | 115.0 | 117.1 | 112.5 | 113.0 | 151.0 | 95.5 | 94.8 | 92.7 | 94.6 | 95.5 | 94.8 | 98.2 | 107.4 | 115.0 | 117.1 | 112.5 | 113.0 | 151.0 | | |
| 97.5 | 97.1 | 94.0 | 96.2 | 99.7 | 96.8 | 99.7 | 108.2 | 114.8 | 118.3 | 112.5 | 113.3 | 151.7 | 97.5 | 97.1 | 94.0 | 96.2 | 99.7 | 96.8 | 99.7 | 108.2 | 114.8 | 118.3 | 112.5 | 113.3 | 151.7 | | |
| 98.8 | 98.8 | 100.3 | 98.8 | 97.8 | 98.2 | 101.3 | 108.9 | 115.5 | 119.2 | 113.8 | 114.1 | 152.6 | 98.8 | 98.8 | 100.3 | 98.8 | 97.8 | 98.2 | 101.3 | 108.9 | 115.5 | 119.2 | 113.8 | 114.1 | 152.6 | | |
| 102.9 | 100.5 | 98.1 | 98.9 | 99.1 | 98.3 | 99.2 | 102.2 | 110.6 | 114.9 | 117.7 | 114.1 | 152.6 | 102.9 | 100.5 | 98.1 | 98.9 | 99.1 | 98.3 | 99.2 | 102.2 | 110.6 | 114.9 | 117.7 | 114.1 | 152.6 | | |
| 108.5 | 107.8 | 102.4 | 101.2 | 103.2 | 99.3 | 98.9 | 103.1 | 110.6 | 114.9 | 117.7 | 114.1 | 152.6 | 108.5 | 107.8 | 102.4 | 101.2 | 103.2 | 99.3 | 98.9 | 103.1 | 110.6 | 114.9 | 117.7 | 114.1 | 152.6 | | |
| 108.4 | 108.2 | 105.7 | 106.2 | 106.7 | 103.3 | 100.9 | 103.5 | 110.6 | 115.1 | 116.0 | 112.5 | 152.3 | 108.4 | 108.2 | 105.7 | 106.2 | 106.7 | 103.3 | 100.9 | 103.5 | 110.6 | 115.1 | 116.0 | 112.5 | 152.3 | | |
| 106.3 | 107.4 | 106.1 | 107.7 | 105.6 | 104.7 | 103.0 | 105.7 | 109.9 | 113.2 | 114.4 | 111.4 | 151.4 | 106.3 | 107.4 | 106.1 | 107.7 | 105.6 | 104.7 | 103.0 | 105.7 | 109.9 | 113.2 | 114.4 | 111.4 | 151.4 | | |
| 103.5 | 104.3 | 102.0 | 104.5 | 103.9 | 103.2 | 102.6 | 105.7 | 109.6 | 111.1 | 111.7 | 107.3 | 149.3 | 103.5 | 104.3 | 102.0 | 104.5 | 103.9 | 103.2 | 102.6 | 105.7 | 109.6 | 111.1 | 111.7 | 107.3 | 149.3 | | |
| 102.2 | 103.3 | 100.4 | 101.2 | 102.4 | 101.5 | 102.2 | 102.6 | 105.7 | 109.6 | 111.1 | 111.7 | 149.3 | 102.2 | 103.3 | 100.4 | 101.2 | 102.4 | 101.5 | 102.2 | 102.6 | 105.7 | 109.6 | 111.1 | 111.7 | 149.3 | | |
| 99.7 | 101.2 | 99.5 | 101.0 | 101.0 | 100.5 | 100.5 | 104.5 | 109.1 | 110.5 | 110.2 | 106.6 | 148.7 | 99.7 | 101.2 | 99.5 | 101.0 | 101.0 | 100.5 | 100.5 | 104.5 | 109.1 | 110.5 | 110.2 | 106.6 | 148.7 | | |
| 98.2 | 98.7 | 97.1 | 99.7 | 100.9 | 100.0 | 100.8 | 104.2 | 107.0 | 108.5 | 108.2 | 104.9 | 147.7 | 98.2 | 98.7 | 97.1 | 99.7 | 100.9 | 100.0 | 100.8 | 104.2 | 107.0 | 108.5 | 108.2 | 104.9 | 147.7 | | |
| 99.2 | 98.0 | 99.7 | 98.0 | 98.5 | 98.1 | 101.8 | 105.5 | 106.3 | 106.2 | 102.0 | 104.5 | 146.7 | 99.2 | 98.0 | 99.7 | 98.0 | 98.5 | 98.1 | 101.8 | 105.5 | 106.3 | 106.2 | 102.0 | 104.5 | 146.7 | | |
| 96.6 | 96.4 | 95.2 | 96.8 | 96.3 | 95.7 | 96.5 | 98.8 | 102.8 | 104.0 | 104.1 | 99.0 | 145.5 | 96.6 | 96.4 | 95.2 | 96.8 | 96.3 | 95.7 | 96.5 | 98.8 | 102.8 | 104.0 | 104.1 | 99.0 | 145.5 | | |
| 93.6 | 93.4 | 91.4 | 93.6 | 93.2 | 93.3 | 93.9 | 96.2 | 99.4 | 99.5 | 99.9 | 97.7 | 143.8 | 93.6 | 93.4 | 91.4 | 93.6 | 93.2 | 93.3 | 93.9 | 96.2 | 99.4 | 99.5 | 99.9 | 97.7 | 143.8 | | |
| 90.5 | 88.8 | 90.2 | 90.1 | 90.6 | 90.1 | 90.6 | 92.9 | 95.8 | 97.5 | 98.0 | 93.5 | 143.2 | 90.5 | 88.8 | 90.2 | 90.1 | 90.6 | 90.1 | 90.6 | 92.9 | 95.8 | 97.5 | 98.0 | 93.5 | 143.2 | | |
| 84.3 | 84.9 | 86.1 | 86.0 | 86.0 | 86.0 | 86.4 | 89.5 | 92.9 | 95.7 | 96.7 | 89.7 | 143.6 | 84.3 | 84.9 | 86.1 | 86.0 | 86.0 | 86.0 | 86.4 | 89.5 | 92.9 | 95.7 | 96.7 | 89.7 | 143.6 | | |
| 79.1 | 80.6 | 79.2 | 80.9 | 76.9 | 77.0 | 76.7 | 73.3 | 84.4 | 92.1 | 87.0 | 74.2 | 149.5 | 79.1 | 80.6 | 79.2 | 80.9 | 76.9 | 77.0 | 76.7 | 73.3 | 84.4 | 92.1 | 87.0 | 74.2 | 149.5 | | |
| 63.8 | 65.6 | 61.3 | 62.7 | 65.8 | 64.5 | 64.4 | 67.4 | 74.6 | 82.3 | 77.2 | 64.4 | 146.8 | 63.8 | 65.6 | 61.3 | 62.7 | 65.8 | 64.5 | 64.4 | 67.4 | 74.6 | 82.3 | 77.2 | 64.4 | 146.8 | | |
| 114.7 | 113.0 | 112.4 | 113.7 | 113.3 | 112.0 | 111.7 | 114.6 | 120.4 | 125.3 | 127.6 | 123.9 | 163.2 | 114.7 | 113.0 | 112.4 | 113.7 | 113.3 | 112.0 | 111.7 | 114.6 | 120.4 | 125.3 | 127.6 | 123.9 | 163.2 | | |
| 128.2 | 128.3 | 125.9 | 127.3 | 126.9 | 125.2 | 124.4 | 127.2 | 132.9 | 137.6 | 139.4 | 136.0 | 136.6 | 128.2 | 128.3 | 125.9 | 127.3 | 126.9 | 125.2 | 124.4 | 127.2 | 132.9 | 137.6 | 139.4 | 136.0 | 136.6 | | |
| 128.2 | 129.5 | 126.9 | 127.3 | 126.9 | 125.2 | 124.4 | 127.2 | 132.9 | 137.6 | 139.4 | 136.0 | 136.6 | 128.2 | 129.5 | 126.9 | 127.3 | 126.9 | 125.2 | 124.4 | 127.2 | 132.9 | 137.6 | 139.4 | 136.0 | 136.6 | | |
| 185.6 | 187.2 | 184.3 | 185.2 | 187.8 | 186.9 | 186.7 | 189.5 | 197.9 | 205.4 | 200.6 | 188.2 | 184.5 | 185.6 | 187.2 | 184.3 | 185.2 | 187.8 | 186.9 | 186.7 | 189.5 | 197.9 | 205.4 | 200.6 | 188.2 | 184.5 | | |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH720 TEST DATE = 03-16-82
IAPLHA = SB59
WIND DIR = DEG WIND VEL = MPH
LOCAT = C41 ANECH CH CONFIG = 2
PAMB HG = 29.25
RELHUM = 39.5 PCT
FLTVEL = 400. FPS
TAMBF = FULL SPHERE
EXT DIST = 40.0 FT
EXT CNFIG = ARC
MIKE HT = NBFR
PAMB = AX
AE8 = 2234.5 FPS
AE18 = 20.4 SQ IN
FNRAMB = LBS XNLR
XNHR = RPM
V8 = RPM
V18 = 2234.5 FPS
AE18 = 20.4 SQ IN
CORR FAN SPEED = RPM

ORIGINAL FILE IS
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0226 X02261

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 68.6 70.9 69.0 71.5 72.3 70.6 70.7 72.8 80.3 87.2 90.4 88.6 81.9 164.1

60 71.0 72.7 70.4 73.0 75.0 74.2 73.8 76.6 85.0 92.6 93.6 88.9 82.2 167.0

100 71.7 74.8 72.0 74.8 76.5 75.7 76.0 78.0 86.8 94.8 95.5 89.1 84.3 168.8

125 74.1 75.1 74.1 76.6 78.0 77.0 77.3 80.2 88.8 95.8 95.7 88.8 85.9 169.4

160 75.9 77.2 75.2 78.1 82.1 79.3 78.7 81.6 89.4 94.9 96.8 88.6 85.7 170.0

200 77.0 82.0 80.2 82.1 81.1 80.2 80.5 83.1 90.0 95.4 97.4 89.6 86.1 171.0

250 80.8 80.1 78.9 80.5 81.1 80.5 81.2 83.8 90.2 95.7 96.2 89.3 86.6 170.9

315 86.0 87.1 82.9 82.5 85.0 81.2 80.7 84.4 91.1 94.1 95.1 88.9 85.4 170.9

400 85.4 87.1 85.8 87.2 88.2 84.9 82.4 84.5 90.8 94.0 93.0 86.7 83.5 170.7

500 82.8 85.9 85.9 86.4 86.8 86.0 84.2 86.4 89.7 91.7 90.9 84.9 80.4 169.8

630 79.5 82.3 81.5 84.9 84.0 84.3 84.8 85.3 89.7 90.4 89.3 82.3 79.2 168.7

800 77.7 81.0 79.6 82.5 83.0 83.2 85.8 88.7 88.8 87.2 79.4 76.0 167.7

1000 74.8 78.6 78.5 81.0 81.5 81.2 83.4 88.1 87.9 85.3 78.0 74.3 167.1

1250 72.8 75.8 75.8 79.5 81.2 80.6 81.2 83.9 85.7 85.3 83.1 75.6 71.4 166.0

1500 72.9 76.6 76.3 79.1 79.2 78.8 78.2 81.2 83.8 82.8 79.9 71.3 65.9 165.1

2000 69.3 72.2 73.1 76.0 76.2 75.8 76.4 78.0 80.7 79.8 76.8 66.7 60.0 163.8

2500 64.5 68.0 68.4 72.1 72.5 73.0 73.3 74.7 76.4 74.1 70.8 62.5 52.1 162.2

3150 58.1 62.3 64.0 67.2 68.2 68.5 68.6 69.9 70.9 69.7 65.6 53.3 39.2 161.6

4000 45.6 52.4 57.7 59.8 61.0 61.4 61.5 63.2 64.2 63.2 58.0 40.7 19.6 162.0

5000 30.7 40.6 44.3 49.2 51.8 52.6 52.1 53.6 54.4 52.3 44.5 22.2 164.0

6300 8.0 21.4 30.5 33.9 36.8 37.7 36.6 37.1 38.1 37.9 24.0 167.9

8000 0.0 7.5 13.6 14.2 12.5 11.5 16.1 13.0

10000 165.1

12500

16000

20000

25000

31500

40000

50000

63000

80000

QASPL 91.6 93.6 92.2 94.3 94.6 93.3 92.8 95.2 100.5 104.7 105.5 99.1 95.0 181.5

PWL 97.2 99.6 98.7 101.2 101.5 100.3 99.7 102.0 106.3 109.0 108.8 101.9 97.7

PNL 97.2 100.1 99.6 101.8 101.5 100.3 99.7 102.0 106.3 109.6 108.8 101.9 97.7

DBA 87.1 89.6 88.8 91.3 91.3 90.6 90.3 92.6 96.3 97.7 97.1 90.2 86.7

MODEL AREA = 131.5 SQ CM (20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH720 TEST DATE = 03-16-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGL = NO PWL AREA = FULL SPHERE TAMB F = 77.00 PAMB HG = 29.25 RELHUM = 39.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2234.5 FPS AE8 = 20.4 SQ IN
FNRAMB = LBS XNLR = XNH XNHR = RPM V8 = 2234.5 FPS AE8 = 20.4 SQ IN

RUNPT = 00-0226 TAPE = X02261 TEST PT NO = 0226 NC = AE039 CORR FAN SPEED = RPM

ORIGINAL PAGE 13
OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0253 X0253C
BACKGROUND 000000000000
ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.
PWL

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 87.2 | 87.2 | 88.5 | 86.0 | 86.1 | 84.5 | 87.4 | 87.3 | 95.0 | 95.3 | 95.7 | 94.9 | 96.5 | 133.5 |
| 63 | 91.5 | 91.0 | 92.0 | 94.3 | 93.7 | 91.8 | 94.2 | 93.3 | 98.6 | 99.0 | 99.6 | 99.6 | 137.7 | |
| 80 | 92.8 | 96.3 | 90.3 | 94.1 | 94.7 | 94.8 | 94.5 | 95.6 | 97.8 | 95.7 | 99.3 | 100.7 | 102.6 | 138.5 |
| 100 | 92.3 | 97.6 | 92.6 | 96.2 | 96.7 | 95.6 | 96.7 | 99.4 | 99.4 | 101.1 | 105.5 | 106.9 | 141.4 | |
| 125 | 88.9 | 90.6 | 92.2 | 95.4 | 97.3 | 96.4 | 96.0 | 97.2 | 98.7 | 100.7 | 108.1 | 110.3 | 111.2 | 144.5 |
| 160 | 88.3 | 87.3 | 90.3 | 91.9 | 92.0 | 92.1 | 94.5 | 95.9 | 99.1 | 103.2 | 108.3 | 111.0 | 114.6 | 145.8 |
| 200 | 90.8 | 89.8 | 89.6 | 92.9 | 95.2 | 95.1 | 95.5 | 98.1 | 103.8 | 104.9 | 110.3 | 114.2 | 116.4 | 148.1 |
| 250 | 89.5 | 93.1 | 92.1 | 94.9 | 95.5 | 95.1 | 97.2 | 101.6 | 104.3 | 110.4 | 115.8 | 118.7 | 118.4 | 151.9 |
| 315 | 90.6 | 92.9 | 90.9 | 93.9 | 96.3 | 96.4 | 97.0 | 100.7 | 106.6 | 112.7 | 117.8 | 120.0 | 120.2 | 153.6 |
| 400 | 92.6 | 94.4 | 92.4 | 95.2 | 96.8 | 95.9 | 98.8 | 101.7 | 108.4 | 115.7 | 120.3 | 121.5 | 119.4 | 155.1 |
| 500 | 93.2 | 95.2 | 92.7 | 95.8 | 97.4 | 97.7 | 98.6 | 103.3 | 110.2 | 118.3 | 122.2 | 121.6 | 118.0 | 156.2 |
| 630 | 95.0 | 96.8 | 94.9 | 97.9 | 99.2 | 98.9 | 100.0 | 105.6 | 112.6 | 121.4 | 123.1 | 122.2 | 118.6 | 157.6 |
| 800 | 99.7 | 99.5 | 100.9 | 100.5 | 102.6 | 102.6 | 107.3 | 115.2 | 123.1 | 124.2 | 121.4 | 118.8 | 158.6 | |
| 1000 | 110.9 | 107.7 | 102.5 | 103.8 | 103.4 | 102.2 | 103.9 | 108.8 | 116.5 | 124.6 | 124.7 | 121.9 | 117.3 | 159.6 |
| 1250 | 110.7 | 110.7 | 106.0 | 106.8 | 106.4 | 104.8 | 105.1 | 109.8 | 118.0 | 124.3 | 123.7 | 119.6 | 116.9 | 159.2 |
| 1600 | 115.0 | 111.3 | 109.5 | 108.2 | 105.3 | 106.4 | 111.2 | 118.5 | 123.0 | 118.2 | 114.7 | 113.1 | 115.8 | |
| 2000 | 111.6 | 113.0 | 110.7 | 112.8 | 112.7 | 107.8 | 107.5 | 111.8 | 118.5 | 123.7 | 121.0 | 117.1 | 113.1 | 158.6 |
| 2500 | 109.9 | 110.7 | 108.7 | 112.2 | 113.8 | 111.9 | 108.6 | 113.0 | 118.1 | 123.6 | 119.9 | 115.5 | 112.0 | 158.3 |
| 3150 | 108.5 | 109.6 | 108.3 | 110.6 | 111.7 | 112.3 | 112.1 | 113.4 | 117.9 | 121.5 | 117.4 | 113.2 | 110.7 | 157.0 |
| 4000 | 107.3 | 108.8 | 109.8 | 110.4 | 112.2 | 115.1 | 114.4 | 116.9 | 119.6 | 115.6 | 111.4 | 106.9 | 105.7 | |
| 5000 | 105.5 | 107.6 | 105.8 | 108.6 | 110.0 | 108.7 | 110.1 | 114.4 | 116.9 | 119.6 | 115.6 | 111.4 | 106.9 | 155.7 |
| 6300 | 103.9 | 105.9 | 105.6 | 107.6 | 109.0 | 109.5 | 110.0 | 114.9 | 116.7 | 119.1 | 115.4 | 110.9 | 106.1 | 155.7 |
| 8000 | 103.1 | 104.3 | 103.6 | 108.5 | 108.3 | 108.3 | 109.0 | 112.3 | 114.7 | 116.8 | 112.7 | 107.4 | 103.4 | 154.6 |
| 10000 | 102.0 | 103.8 | 103.6 | 108.5 | 107.8 | 107.8 | 109.0 | 112.3 | 116.8 | 112.7 | 107.4 | 103.4 | 103.4 | 154.6 |
| 12500 | 100.0 | 101.5 | 101.5 | 104.0 | 106.8 | 106.2 | 106.6 | 110.0 | 113.1 | 115.1 | 106.3 | 101.2 | 153.5 | |
| 16000 | 96.6 | 99.6 | 99.6 | 101.6 | 104.4 | 104.4 | 105.2 | 106.3 | 113.2 | 109.2 | 103.4 | 97.4 | 153.2 | |
| 20000 | 94.4 | 97.2 | 98.1 | 101.8 | 103.2 | 103.2 | 106.3 | 109.8 | 111.5 | 106.7 | 101.3 | 95.4 | 152.8 | |
| 25000 | 91.1 | 93.8 | 98.6 | 95.6 | 99.4 | 100.0 | 103.3 | 105.6 | 108.4 | 102.6 | 98.7 | 92.2 | 152.0 | |
| 31500 | 86.9 | 90.7 | 97.2 | 93.1 | 95.6 | 96.4 | 97.7 | 100.0 | 103.0 | 106.1 | 100.4 | 95.5 | 152.4 | |
| 40000 | 82.7 | 86.0 | 97.6 | 88.6 | 92.3 | 92.7 | 94.0 | 97.7 | 100.4 | 105.1 | 97.7 | 92.0 | 154.5 | |
| 50000 | 77.5 | 81.5 | 96.4 | 83.9 | 88.3 | 89.7 | 93.1 | 97.1 | 101.6 | 98.8 | 94.0 | 87.7 | 155.5 | |
| 63000 | 72.3 | 77.4 | 95.4 | 79.0 | 83.8 | 84.9 | 88.4 | 92.9 | 98.8 | 90.4 | 82.8 | 72.0 | 157.8 | |
| 80000 | 67.2 | 72.5 | 93.3 | 73.6 | 78.6 | 78.3 | 78.8 | 83.9 | 88.0 | 94.9 | 84.5 | 77.2 | 160.9 | |
| DASPL | 120.3 | 120.0 | 118.2 | 120.2 | 121.1 | 120.1 | 120.5 | 124.1 | 128.8 | 133.7 | 133.2 | 131.2 | 128.9 | 170.9 |
| PWL | 132.1 | 132.5 | 130.7 | 133.3 | 134.4 | 133.6 | 133.9 | 137.3 | 141.6 | 145.9 | 144.6 | 140.9 | 138.0 | |
| PNT | 134.0 | 133.6 | 130.7 | 133.3 | 134.4 | 133.6 | 133.9 | 137.3 | 141.6 | 145.9 | 144.6 | 140.9 | 138.0 | |
| DBA | 120.9 | 120.6 | 118.5 | 120.7 | 121.4 | 120.1 | 120.3 | 123.9 | 128.8 | 133.8 | 132.7 | 129.7 | 126.5 | |

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICLE = ADH731 TEST DATE = 03-17-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVL = 0. FPS
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 53.00 MIKE HT = 29.55 RELHUM = 69.7 PCT
WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC NBFR =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2580.2 FPS AEB = 20.4 SQ IN
FNRAMB = LBS XNLR = RPM V18 = 2580.2 FPS AE18 = 0. SQ IN
CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0253 X0253F

ANGLES MEASURED FROM INLET, DEGREES

| | | | | | | | | | | | | | | | | |
|---|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| FREQ | 50 | 67.2 | 67.2 | 68.5 | 66.0 | 66.1 | 64.5 | 67.4 | 67.3 | 65.0 | 95.3 | 95.7 | 94.9 | 96.5 | 133.5 | PWL |
| 80 | 92.8 | 96.3 | 90.3 | 94.1 | 94.7 | 94.8 | 94.5 | 95.6 | 97.8 | 95.7 | 99.3 | 100.7 | 102.6 | 138.5 | | |
| 100 | 92.3 | 97.6 | 92.6 | 96.2 | 96.7 | 95.6 | 96.7 | 99.4 | 99.4 | 101.1 | 105.5 | 106.9 | 141.4 | | | |
| 125 | 88.9 | 90.6 | 92.2 | 95.4 | 97.3 | 96.4 | 96.0 | 97.2 | 98.7 | 100.7 | 108.1 | 110.3 | 144.5 | | | |
| 150 | 88.3 | 87.3 | 90.3 | 91.9 | 92.0 | 92.1 | 94.5 | 95.9 | 99.1 | 103.2 | 108.3 | 111.0 | 145.8 | | | |
| 200 | 89.8 | 89.8 | 92.9 | 95.2 | 96.8 | 95.1 | 95.5 | 98.1 | 103.8 | 104.9 | 110.3 | 114.2 | 148.1 | | | |
| 250 | 89.5 | 93.1 | 92.1 | 94.9 | 95.5 | 95.1 | 97.2 | 101.6 | 104.3 | 110.4 | 115.8 | 118.7 | 151.9 | | | |
| 315 | 90.6 | 92.9 | 90.9 | 93.9 | 96.3 | 96.4 | 97.0 | 100.7 | 106.6 | 112.7 | 117.8 | 120.0 | 153.6 | | | |
| 400 | 92.6 | 94.4 | 92.4 | 95.2 | 96.8 | 95.9 | 98.8 | 101.7 | 108.4 | 115.7 | 120.3 | 121.5 | 155.1 | | | |
| 500 | 93.2 | 95.2 | 92.7 | 95.8 | 97.4 | 97.7 | 98.6 | 103.3 | 110.2 | 118.3 | 122.2 | 121.6 | 156.2 | | | |
| 630 | 95.0 | 96.8 | 94.9 | 97.9 | 99.2 | 98.9 | 100.0 | 105.6 | 112.6 | 121.4 | 123.1 | 122.2 | 157.6 | | | |
| 800 | 99.7 | 98.2 | 96.7 | 99.5 | 100.9 | 100.5 | 102.6 | 107.3 | 115.2 | 123.1 | 124.2 | 121.4 | 158.6 | | | |
| 1000 | 107.9 | 107.7 | 102.5 | 103.8 | 103.4 | 102.2 | 103.9 | 108.8 | 116.5 | 124.6 | 124.9 | 117.3 | 159.6 | | | |
| 1250 | 110.7 | 106.0 | 106.8 | 106.4 | 104.8 | 105.1 | 109.8 | 118.0 | 118.8 | 124.3 | 123.7 | 119.6 | 159.2 | | | |
| 1600 | 115.0 | 111.3 | 109.5 | 109.8 | 108.2 | 105.3 | 106.4 | 111.2 | 118.5 | 123.4 | 123.0 | 118.2 | 158.8 | | | |
| 2000 | 111.6 | 113.0 | 110.7 | 112.8 | 112.7 | 107.8 | 112.5 | 111.8 | 118.5 | 123.7 | 121.0 | 117.1 | 158.6 | | | |
| 2500 | 109.9 | 110.7 | 108.7 | 112.2 | 113.8 | 111.9 | 108.6 | 113.0 | 118.1 | 123.6 | 119.9 | 115.5 | 158.3 | | | |
| 3150 | 108.5 | 109.6 | 108.3 | 110.6 | 111.7 | 112.3 | 113.4 | 118.7 | 121.5 | 118.5 | 114.2 | 110.7 | 157.4 | | | |
| 4000 | 107.3 | 108.3 | 106.8 | 109.8 | 110.4 | 110.4 | 112.2 | 115.1 | 117.9 | 121.4 | 117.4 | 113.2 | 157.0 | | | |
| 5000 | 105.5 | 107.6 | 110.0 | 108.6 | 110.0 | 108.7 | 110.1 | 114.4 | 119.6 | 119.6 | 111.4 | 106.9 | 155.7 | | | |
| 6300 | 103.9 | 105.9 | 105.6 | 107.6 | 109.0 | 109.5 | 110.0 | 114.9 | 116.7 | 119.1 | 115.4 | 110.9 | 155.7 | | | |
| 8000 | 103.1 | 104.3 | 103.3 | 106.5 | 108.5 | 108.3 | 109.0 | 112.8 | 116.0 | 117.1 | 114.1 | 108.6 | 154.6 | | | |
| 10000 | 102.0 | 103.6 | 103.6 | 105.8 | 107.8 | 107.2 | 109.0 | 112.3 | 114.7 | 116.8 | 112.7 | 107.4 | 154.5 | | | |
| 12500 | 100.0 | 101.5 | 101.5 | 104.0 | 106.8 | 106.2 | 106.6 | 110.0 | 113.1 | 115.1 | 111.3 | 106.3 | 153.5 | | | |
| 16000 | 96.6 | 99.6 | 99.6 | 101.6 | 104.4 | 104.4 | 105.2 | 108.3 | 112.2 | 113.2 | 109.2 | 103.4 | 153.2 | | | |
| 20000 | 94.4 | 97.2 | 98.1 | 99.1 | 101.8 | 101.8 | 103.2 | 106.3 | 109.8 | 111.5 | 106.7 | 101.3 | 152.8 | | | |
| 25000 | 91.1 | 93.8 | 95.6 | 96.8 | 99.4 | 100.0 | 100.9 | 103.3 | 105.6 | 108.4 | 102.6 | 98.7 | 152.0 | | | |
| 31500 | 86.9 | 90.7 | 92.2 | 93.1 | 95.6 | 96.4 | 97.7 | 100.0 | 103.0 | 106.1 | 100.4 | 95.5 | 152.4 | | | |
| 40000 | 82.7 | 86.0 | 87.6 | 88.6 | 92.3 | 92.7 | 94.0 | 97.7 | 100.4 | 105.1 | 97.7 | 92.0 | 154.5 | | | |
| 50000 | 77.5 | 81.5 | 83.9 | 84.7 | 88.3 | 89.7 | 93.1 | 97.1 | 101.6 | 94.0 | 87.7 | 77.5 | 155.5 | | | |
| 63000 | 72.3 | 77.4 | 83.8 | 84.9 | 88.3 | 89.4 | 92.9 | 98.8 | 94.0 | 90.4 | 82.8 | 72.0 | 157.8 | | | |
| 80000 | 67.2 | 72.5 | 78.6 | 78.3 | 83.9 | 86.8 | 88.0 | 94.9 | 84.5 | 77.2 | 64.8 | 64.8 | 160.9 | | | |
| QASPL | 120.3 | 120.0 | 118.2 | 120.2 | 121.1 | 120.1 | 120.5 | 124.1 | 128.8 | 133.7 | 133.2 | 131.2 | 128.9 | 170.9 | | |
| PWL | 132.1 | 132.5 | 130.7 | 133.3 | 134.4 | 133.6 | 133.9 | 137.3 | 141.6 | 145.9 | 144.0 | 140.9 | 138.0 | | | |
| PWL | 134.0 | 133.6 | 130.7 | 133.3 | 134.4 | 133.6 | 133.9 | 137.3 | 141.6 | 145.9 | 144.6 | 140.9 | 138.0 | | | |
| DBA | 168.9 | 194.0 | 214.0 | 195.4 | 200.2 | 199.9 | 200.8 | 205.3 | 209.5 | 216.1 | 206.2 | 199.0 | 187.4 | | | |
| MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0, DIAM (IN) = 48.00 | | | | | | | | | | | | | | | | |
| NASA SHOCK CELL/CIRCULAR C-D NO2/AX/SC-2/NAS3-22514 | | | | | | | | | | | | | | | | |
| VEHICL | ADH731 | | | | | | | | | | | | | | | |
| IAPLHA | SB59 | | | | | | | | | | | | | | | |
| WIND DIR | DEG | | | | | | | | | | | | | | | |
| WIND VEL | MPH | | | | | | | | | | | | | | | |
| TEST DATE | 03-17-82 | | | | | | | | | | | | | | | |
| LOCAT | C41 ANECH CH | | | | | | | | | | | | | | | |
| CONFIG | 2 | | | | | | | | | | | | | | | |
| TAMB F | 53.00 | | | | | | | | | | | | | | | |
| EXT CNFIG | ARC | | | | | | | | | | | | | | | |
| MIKE HT | 29.55 | | | | | | | | | | | | | | | |
| PAMB HG | AX | | | | | | | | | | | | | | | |
| FLVEL | 0. FPS | | | | | | | | | | | | | | | |
| RELHUM | 69.7 PCT | | | | | | | | | | | | | | | |
| NBFR | | | | | | | | | | | | | | | | |
| FINI | LBS XNL | | | | | | | | | | | | | | | |
| FNRAMB | LBS XNLR | | | | | | | | | | | | | | | |
| TEST PT NO = 0253 | X0253F | | | | | | | | | | | | | | | |
| NC | = AE041 | | | | | | | | | | | | | | | |
| CORR FAN SPEED = | RPM | | | | | | | | | | | | | | | |
| AE8 | = 2580.2 FPS | | | | | | | | | | | | | | | |
| AE18 | = 20.4 SQ IN | | | | | | | | | | | | | | | |
| AE18 | = 0. FPS | | | | | | | | | | | | | | | |
| AE18 | = 29.55 | | | | | | | | | | | | | | | |
| AE18 | = 69.7 PCT | | | | | | | | | | | | | | | |
| AE18 | = 0. FPS | | | | | | | | | | | | | | | |

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0253 X02531

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 71.5 74.6 73.9 77.4 79.4 78.7 81.4 83.9 89.9 96.2 99.3 98.2 92.8 173.5

63 72.1 75.7 74.3 78.0 80.0 80.5 81.3 85.5 91.8 98.8 101.1 98.3 91.4 174.6

80 73.9 77.2 76.3 80.1 81.8 81.6 82.6 87.8 94.1 101.8 101.9 98.9 91.9 176.0

100 78.5 78.6 78.2 81.7 83.4 83.2 85.2 89.4 96.7 103.4 103.0 97.9 91.9 177.0

125 89.6 88.0 83.8 85.9 85.9 84.9 86.4 90.9 97.8 104.8 103.4 98.2 90.1 177.9

160 89.2 90.8 87.2 88.8 87.3 87.5 91.7 99.2 104.4 102.2 95.8 89.4 177.5

200 93.2 91.1 90.6 91.6 90.4 87.6 88.6 93.0 99.6 103.2 101.2 94.0 86.7 177.1

250 89.5 92.6 91.5 94.4 94.7 90.0 89.5 93.4 99.2 103.3 98.9 92.5 84.5 177.0

315 87.4 89.9 89.2 93.5 95.6 93.8 90.4 94.3 98.6 102.9 97.4 90.3 82.5 176.7

400 85.5 88.4 88.5 91.6 93.1 93.9 93.6 94.3 97.7 99.9 95.5 88.4 80.3 175.7

500 83.7 86.7 86.6 90.5 91.6 91.7 93.4 95.7 97.7 99.9 93.9 86.7 78.0 175.4

630 81.5 85.6 85.3 89.0 90.9 89.8 91.0 94.8 96.4 97.6 91.6 84.2 74.4 174.1

800 79.4 83.6 84.8 87.7 89.7 90.3 90.7 95.0 95.9 96.8 90.9 83.0 72.5 174.0

1000 78.2 81.7 82.3 86.4 89.0 89.0 89.5 92.7 95.0 94.5 89.2 80.1 69.7 173.0

1250 76.6 80.9 82.3 85.6 88.9 88.3 89.4 92.0 93.4 93.9 87.3 78.1 67.2 172.8

1600 73.7 78.0 79.8 83.4 86.8 86.5 86.6 89.4 91.4 91.6 85.0 75.6 62.7 171.9

2000 69.3 75.5 77.5 80.8 84.3 84.5 85.1 87.5 90.1 89.0 81.9 71.1 55.8 171.5

2500 65.3 71.9 75.1 77.6 81.2 81.5 82.5 84.9 86.8 86.1 77.6 66.1 48.9 171.1

3150 58.7 66.0 73.7 72.6 77.4 78.3 78.9 80.2 80.7 80.6 70.1 58.6 37.3 170.3

4000 48.2 58.1 68.5 66.8 70.6 71.9 72.7 73.7 74.3 73.5 61.7 46.5 17.6 170.8

5000 34.2 45.9 62.7 56.9 62.4 63.3 64.1 65.9 65.5 65.0 49.2 29.3 172.9

6300 11.2 27.2 49.5 41.3 47.7 49.0 49.6 50.6 50.1 47.3 27.8 0.8 173.9

8000 27.1 17.3 25.6 26.2 26.7 26.7 26.7 24.6 19.6 176.1

10000 179.3

12500

16000

20000

25000

31500

40000

50000

63000

80000

GASPL 98.0 99.2 98.2 101.2 102.4 101.4 101.5 104.7 109.0 113.2 111.2 106.5 99.7 189.1

PNL 101.9 104.0 104.3 107.0 109.1 108.5 108.7 111.5 114.8 117.4 113.3 106.8 98.6

PNLT 102.9 104.6 104.8 107.0 109.1 108.5 108.7 111.5 115.4 118.5 113.3 108.0 98.6

DBA 90.2 93.0 93.2 96.5 98.6 98.2 98.6 101.7 104.0 105.6 100.6 93.4 85.2

MODEL AREA = 131.5 SQ CM (20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

NASA SHOCK CELL/CIRCULAR C-D NO2/AX/SC-2/NAS3-22514

VEHICL = ADH731 TEST DATE = 03-17-82 LOCAL = C41 ANECH CH CONFIG = 2 TAMB F = 53.00 PAMB HG = 29.55 FLTVEL = 0. FPS

IAPLHA = SB59 DEQ WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR = 69.7 PCT

FINI1 = LBS XNL = RPM XNHR = RPM V8 = 2580.2 FPS AE8 = 20.4 SQ IN

FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2580.2 FPS AE8 = 20.4 SQ IN

RUNPT = 82F-ZER-0253 TAPE = X02531 TEST PT NO = 0253 NC = AE041 CORR FAN SPEED = RPM

ORIGINAL PAGE 14
OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-1206 X1206C
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160

88.5 85.0 82.6 85.2 82.2 83.6 82.0 84.7 86.6 90.2 92.6 PWL

63 66.6 66.5 86.9 87.2 88.4 84.4 91.7 87.7 88.3 87.5 90.2 92.6 91.7 131.2

80 67.5 66.3 81.9 87.1 85.9 86.1 85.7 87.0 89.1 86.2 89.4 92.6 94.1 130.1

100 66.2 86.0 81.5 86.3 86.7 85.5 86.4 89.1 86.6 91.0 96.7 97.8 131.7

125 86.0 84.7 82.6 86.3 87.1 87.0 86.1 87.1 88.0 88.2 95.3 99.3 101.3 133.7

160 84.4 81.3 81.6 83.9 83.7 83.6 84.0 86.3 89.8 95.2 99.4 103.6 134.2

200 85.4 83.4 81.4 84.4 84.7 83.8 85.5 87.4 90.5 90.3 96.0 102.2 105.1 136.1

250 85.7 84.7 80.0 85.0 85.1 86.0 89.0 90.5 94.6 101.3 106.0 106.9 139.0

315 86.0 83.0 81.0 86.1 85.9 86.1 88.6 92.1 96.2 102.6 107.0 107.9 140.1

400 85.8 84.3 81.5 84.8 86.1 84.9 86.6 88.8 92.6 98.9 105.6 109.0 106.7 141.5

500 86.4 84.9 81.4 86.0 86.7 86.0 86.2 89.4 93.9 100.8 108.0 109.6 104.3 142.4

630 87.5 86.1 82.6 87.6 87.2 87.5 87.9 91.8 95.6 103.7 109.6 110.4 143.4

800 88.7 89.2 88.1 89.4 89.7 89.7 89.7 92.5 97.7 105.1 111.2 109.1 144.2

1000 92.0 90.0 86.2 89.3 89.5 90.9 94.3 98.8 105.8 112.0 108.4 98.0 144.6

1250 101.7 102.1 98.7 100.6 99.7 95.6 93.5 96.1 101.2 105.0 107.0 103.3 96.6 143.4

1500 100.5 100.5 95.8 97.1 93.7 92.1 95.9 100.6 104.4 110.3 104.7 98.2 143.8

2000 101.7 102.1 98.7 100.6 99.7 95.6 93.5 96.1 101.2 105.0 107.0 103.3 96.6 143.4

2500 100.4 100.2 97.0 101.0 101.6 98.4 95.6 97.0 100.4 104.6 105.2 100.7 95.2 142.9

3150 98.5 99.0 96.1 99.3 100.2 99.5 98.6 98.6 103.0 103.3 100.4 93.7 142.2

4000 97.9 98.0 97.6 97.6 98.2 98.2 100.8 98.3 101.6 103.1 101.6 97.1 141.7

5000 96.9 98.4 94.5 96.7 97.4 96.1 96.0 99.3 101.8 101.4 100.3 96.1 140.8

6300 95.8 96.0 95.1 96.9 97.1 96.3 96.1 98.7 102.0 101.6 99.4 97.7 141.0

8000 94.1 95.5 93.3 95.9 96.7 94.7 97.2 101.0 100.5 98.0 93.3 98.7 140.1

10000 93.1 94.8 93.1 95.9 97.1 95.4 95.4 97.3 98.9 99.8 97.0 92.7 140.0

12500 90.4 92.3 90.8 93.3 94.9 94.4 93.4 95.6 97.2 96.3 94.8 90.9 138.7

16000 87.3 88.9 87.8 90.7 92.5 91.8 92.3 93.7 96.0 93.8 92.3 87.6 137.9

20000 83.4 86.1 84.2 89.6 89.3 89.7 89.7 92.6 91.7 88.8 85.3 81.1 136.8

25000 80.9 82.2 81.9 83.6 86.0 86.9 86.2 89.7 86.3 84.2 82.3 76.9 135.7

31500 78.3 80.7 77.0 79.2 82.2 81.6 82.8 84.7 85.3 82.8 81.0 78.2 135.0

40000 72.7 73.4 74.9 78.1 77.7 79.5 80.7 79.2 79.2 74.5 68.5 68.5 135.8

50000 66.3 78.0 69.7 78.5 73.2 73.4 75.2 77.1 75.0 73.4 70.9 63.8 135.3

63000 69.8 78.2 67.2 64.9 67.6 69.1 71.0 72.8 72.8 71.3 66.4 137.7

80000 69.3 80.7 68.2 63.4 65.0 66.4 63.5 63.4 65.7 72.3 67.6 60.9 144.8

DBA 109.3 109.7 106.3 108.9 108.9 107.1 106.5 108.8 112.0 115.3 119.1 116.6 110.5

PWL 122.0 122.1 118.9 122.1 122.3 121.1 120.6 122.8 125.1 127.7 130.0 128.0 123.0

QASPL 108.9 109.3 106.1 108.7 108.9 107.3 107.0 109.2 112.2 115.4 119.5 118.4 115.1 155.7

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICLE = ADH709 TEST DATE = 03-16-82 LOCATION = C41 ANECH CH CONFIG = 2 MODEL = AX PAMB HG = 29.30 RELHUM = 76.6 PCT
WIND DIR = SB59 IEQA = NO EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBFR =
FNIN1 = LBS XNL RPM XNH XNHR = RPM V8 = 1709.3 FPS AE8 = 20.4 SQ IN
FNAMB = LBS XNLR = X1206C TEST PT NO = 1206 NC = AE039 CORR FAN SPEED = RPM

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IDENTIFICATION - 82F-400-1206 X1206F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREQ 50 63 80 100 125 160

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 250 | 92.4 | 89.9 | 83.7 | 87.4 | 86.1 | 85.1 | 84.1 | 85.4 | 88.6 | 91.8 | 97.7 | 102.6 | 105.3 | 136.7 |
| 315 | 92.4 | 89.9 | 83.7 | 87.4 | 87.1 | 85.2 | 84.7 | 85.6 | 89.3 | 94.9 | 101.1 | 105.3 | 105.5 | 138.5 |
| 400 | 91.9 | 87.7 | 84.5 | 88.5 | 87.4 | 85.2 | 85.3 | 86.1 | 91.1 | 97.2 | 104.0 | 106.9 | 104.9 | 139.8 |
| 500 | 91.8 | 89.1 | 85.1 | 87.2 | 88.1 | 86.4 | 85.2 | 86.9 | 94.2 | 101.9 | 107.8 | 110.1 | 105.9 | 142.8 |
| 630 | 92.2 | 89.6 | 84.9 | 88.4 | 89.6 | 87.9 | 87.3 | 90.2 | 97.0 | 104.1 | 110.6 | 111.2 | 108.0 | 144.8 |
| 800 | 93.3 | 90.7 | 86.3 | 90.1 | 89.6 | 89.2 | 88.8 | 91.1 | 98.4 | 105.4 | 112.2 | 111.9 | 108.8 | 146.0 |
| 1000 | 94.7 | 94.1 | 88.2 | 91.6 | 91.0 | 90.1 | 90.4 | 92.9 | 99.8 | 104.9 | 110.2 | 109.3 | 109.0 | 144.5 |
| 1250 | 98.8 | 95.5 | 90.4 | 92.1 | 93.0 | 92.0 | 91.4 | 94.1 | 100.7 | 104.4 | 110.8 | 108.5 | 109.1 | 144.8 |
| 1600 | 103.2 | 102.0 | 95.1 | 96.4 | 95.7 | 92.1 | 95.0 | 101.6 | 105.2 | 107.8 | 105.4 | 106.5 | 105.4 | 142.2 |
| 2000 | 107.9 | 106.8 | 100.7 | 100.6 | 101.8 | 96.8 | 93.8 | 95.5 | 101.2 | 105.4 | 106.5 | 105.4 | 107.0 | 145.5 |
| 2500 | 108.5 | 107.7 | 103.1 | 103.8 | 103.9 | 100.0 | 96.3 | 96.7 | 102.8 | 104.5 | 105.3 | 105.7 | 106.1 | 146.3 |
| 3150 | 105.4 | 104.6 | 100.7 | 104.0 | 103.1 | 101.5 | 100.1 | 99.2 | 103.8 | 105.1 | 104.2 | 103.1 | 105.4 | 145.5 |
| 4000 | 104.2 | 104.4 | 100.7 | 103.1 | 100.7 | 99.9 | 100.2 | 101.8 | 103.9 | 103.3 | 102.8 | 102.0 | 103.8 | 144.8 |
| 5000 | 102.7 | 102.7 | 100.0 | 101.5 | 100.9 | 99.1 | 98.3 | 100.5 | 103.9 | 103.3 | 101.8 | 103.5 | 102.6 | 144.2 |
| 6300 | 101.6 | 102.9 | 98.6 | 100.5 | 100.8 | 99.3 | 98.2 | 99.6 | 103.4 | 102.8 | 101.0 | 99.6 | 103.1 | 143.8 |
| 8000 | 100.9 | 102.9 | 99.7 | 100.8 | 100.6 | 98.5 | 97.0 | 98.5 | 102.0 | 102.6 | 100.5 | 99.6 | 102.8 | 143.7 |
| 10000 | 100.4 | 101.4 | 98.4 | 100.2 | 101.1 | 98.4 | 97.7 | 98.8 | 100.7 | 99.8 | 98.9 | 98.3 | 100.7 | 143.4 |
| 12500 | 100.0 | 100.9 | 98.3 | 100.1 | 98.9 | 97.4 | 95.8 | 97.3 | 100.0 | 97.7 | 96.9 | 95.6 | 98.8 | 143.1 |
| 16000 | 96.7 | 97.9 | 95.5 | 97.1 | 96.6 | 94.8 | 94.7 | 95.3 | 97.2 | 96.2 | 94.0 | 93.8 | 96.8 | 141.9 |
| 20000 | 93.2 | 94.1 | 92.1 | 94.0 | 93.6 | 92.3 | 92.1 | 93.3 | 95.2 | 91.8 | 90.4 | 91.6 | 93.4 | 140.7 |
| 25000 | 88.8 | 89.7 | 87.9 | 90.2 | 89.0 | 89.4 | 90.1 | 91.5 | 89.0 | 87.9 | 86.3 | 86.4 | 139.6 | |
| 31500 | 85.5 | 86.0 | 84.8 | 85.5 | 86.3 | 84.6 | 85.3 | 86.5 | 87.7 | 85.9 | 85.6 | 85.3 | 86.5 | 139.0 |
| 40000 | 82.0 | 83.7 | 79.1 | 80.3 | 81.6 | 80.7 | 82.0 | 82.3 | 83.9 | 81.6 | 80.7 | 81.9 | 138.9 | |
| 50000 | 74.0 | 83.8 | 73.6 | 74.5 | 76.0 | 76.2 | 75.8 | 76.7 | 77.5 | 79.0 | 78.0 | 76.6 | 76.2 | 139.1 |
| 63000 | 66.7 | 77.8 | 68.9 | 67.6 | 71.6 | 70.9 | 69.6 | 69.7 | 73.2 | 79.3 | 74.9 | 71.1 | 68.9 | 140.1 |
| 80000 | 70.2 | 77.9 | 65.9 | 62.6 | 68.7 | 69.4 | 65.1 | 63.5 | 63.3 | 69.4 | 65.1 | 61.3 | 59.0 | 143.1 |

| | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| DBA | 190.6 | 198.5 | 187.0 | 184.5 | 189.7 | 190.2 | 186.7 | 185.8 | 187.1 | 192.6 | 188.5 | 185.2 | 183.4 |
| PMLT | 128.0 | 127.3 | 122.9 | 124.8 | 124.2 | 122.3 | 121.0 | 122.5 | 126.1 | 127.9 | 129.0 | 129.2 | 129.6 |
| PNL | 128.0 | 127.3 | 122.9 | 124.8 | 124.2 | 122.3 | 121.0 | 122.5 | 126.1 | 127.9 | 129.0 | 129.2 | 129.6 |
| GASPL | 114.9 | 114.6 | 110.4 | 112.0 | 111.7 | 109.4 | 108.3 | 109.6 | 113.6 | 115.7 | 119.3 | 119.4 | 118.6 |
| | 157.4 | | | | | | | | | | | | |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NO2/AX/SC-2/NAS3-22514

VEHICLE = ADH709 TEST DATE = 03-16-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLVEL = 400. FPS
 IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.30 RELHUM = 76.6 PCT
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =
 FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 1709.3 FPS AE8 = 20.4 SQ IN
 FNRAMB = LBS XNLR = RPM V18 = 1709.3 FPS AE18 = 0. SQ IN
 RUNPT = 82F-400-1206 TAPE = X1206F TEST PT NO = 1206 NC = AE039 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-1206 X12061

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 70.8 68.2 66.0 70.7 70.1 68.0 68.0 68.3 72.6 77.6 83.0 83.6 78.3 158.1

63 70.7 69.5 66.6 69.4 70.7 69.1 67.8 69.1 75.8 82.3 86.7 86.7 79.2 161.2

80 72.0 70.0 66.4 70.6 71.2 70.7 69.9 72.4 78.5 84.5 89.5 87.8 81.2 163.2

100 72.0 71.1 67.7 72.2 72.1 71.9 71.4 73.2 79.8 85.7 91.0 88.5 81.9 164.3

125 73.4 74.4 69.5 73.6 73.5 72.7 72.9 74.9 81.1 85.1 88.9 85.6 81.9 162.9

160 77.2 75.6 71.6 74.0 75.3 74.6 73.8 76.1 81.9 84.4 89.3 84.6 81.5 163.1

200 81.4 81.9 76.1 78.2 78.0 74.9 74.4 76.8 82.6 85.1 86.0 83.1 79.7 162.6

250 85.8 86.4 81.5 82.1 83.9 79.0 75.8 77.0 82.0 85.0 84.4 80.7 78.4 163.9

315 85.9 87.0 83.6 85.1 85.7 81.9 78.0 78.0 83.3 83.8 82.8 80.5 76.6 164.7

400 82.4 83.5 80.9 84.6 83.1 81.5 80.2 83.9 83.9 83.9 81.2 77.3 74.9 163.9

500 80.7 82.8 80.5 83.8 81.9 81.2 81.3 82.5 83.7 81.8 79.3 75.5 72.4 163.2

630 78.7 80.8 79.5 81.8 80.2 79.1 80.8 83.4 81.3 77.8 76.3 70.1 162.5

800 77.1 80.6 77.8 80.6 81.4 80.1 78.9 79.8 82.6 80.5 76.5 71.8 69.4 162.1

1000 76.0 80.3 78.6 80.8 81.1 79.2 77.5 78.4 80.9 80.0 75.6 71.0 68.0 162.1

1250 75.0 78.4 77.1 80.0 81.5 78.9 78.6 79.4 76.8 73.5 68.9 64.4 161.8

1600 73.7 77.4 76.6 79.5 79.0 77.7 75.9 76.7 78.3 74.2 70.6 64.9 161.5

2000 69.4 73.8 76.3 76.5 74.9 74.7 74.5 75.2 72.1 66.8 61.5 55.2 160.3

2500 64.1 68.7 69.2 72.5 73.0 72.0 71.5 71.8 72.2 66.5 61.3 56.5 159.1

3150 56.3 62.9 63.0 67.2 68.2 67.3 67.4 67.1 66.7 61.2 55.4 48.2 158.0

4000 46.8 53.5 56.2 61.3 60.0 60.3 60.2 59.0 53.4 46.9 36.2 18.8 157.3

5000 33.6 43.6 44.2 48.6 51.6 51.3 52.0 50.6 49.0 41.5 32.3 18.8 157.3

6300 7.8 29.5 26.7 32.0 35.9 36.9 35.7 34.1 30.5 24.6 11.8 158.4

8000 0.6 5.9 13.4 13.8 11.4 7.9 4.8 0.1 158.4

10000 0.6 5.9 13.4 13.8 11.4 7.9 4.8 0.1 158.4

12500 0.6 5.9 13.4 13.8 11.4 7.9 4.8 0.1 158.4

16000 0.6 5.9 13.4 13.8 11.4 7.9 4.8 0.1 158.4

20000 0.6 5.9 13.4 13.8 11.4 7.9 4.8 0.1 158.4

25000 0.6 5.9 13.4 13.8 11.4 7.9 4.8 0.1 158.4

31500 0.6 5.9 13.4 13.8 11.4 7.9 4.8 0.1 158.4

40000 0.6 5.9 13.4 13.8 11.4 7.9 4.8 0.1 158.4

50000 0.6 5.9 13.4 13.8 11.4 7.9 4.8 0.1 158.4

63000 0.6 5.9 13.4 13.8 11.4 7.9 4.8 0.1 158.4

80000 0.6 5.9 13.4 13.8 11.4 7.9 4.8 0.1 158.4

DBA 86.8 89.2 89.2 87.1 89.8 90.0 88.1 87.0 87.6 89.8 88.5 86.4 83.0 79.3

PNLT 98.6 99.1 96.5 99.9 99.5 97.9 96.8 97.6 99.7 99.4 99.1 95.9 91.0

PNL 97.2 99.1 96.5 99.4 99.5 97.9 96.8 97.3 99.7 99.4 99.1 95.9 91.0

GNL 91.9 93.2 90.2 92.7 92.9 90.7 89.3 90.1 93.6 95.1 97.6 95.2 90.1 175.6

MODEL AREA = 131.5 SQ CM (20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH709 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CONFIO = 2

IAPLHA = SB59 IEQA / = NO PML AREA = FULL SPHERE TAMB F = 69.00 MIKE HT = 29.30

WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIO = SL

FNINI = LBS XNLR = RPM XNHR = RPM V8 = 1709.3 FPS AE8 = 20.4 SQ IN

FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 1709.3 FPS AE8 = 20.4 SQ IN

RUNPT = 00-1206 TAPE = X12061 TEST PT NO = 1206 NC = AE039 CORR FAN SPEED = RPM

ORIGINAL PAGE 19
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1207 X12071

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

| | | | | | | | | | | | | | | |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50 | 64.0 | 69.1 | 67.9 | 71.7 | 72.9 | 72.4 | 74.4 | 77.2 | 80.2 | 85.2 | 89.8 | 91.5 | 88.6 | 166.1 |
| 63 | 65.8 | 69.7 | 67.8 | 72.0 | 73.8 | 74.0 | 74.8 | 77.5 | 80.8 | 86.5 | 91.9 | 93.3 | 88.4 | 167.4 |
| 80 | 67.4 | 71.0 | 69.6 | 74.3 | 75.9 | 75.4 | 75.6 | 79.3 | 82.6 | 89.1 | 93.9 | 94.1 | 88.9 | 168.8 |
| 100 | 70.7 | 72.1 | 72.4 | 76.7 | 77.7 | 76.7 | 77.7 | 79.9 | 83.9 | 90.2 | 95.2 | 94.2 | 90.6 | 169.8 |
| 125 | 77.4 | 80.5 | 79.4 | 82.1 | 81.1 | 78.4 | 78.9 | 81.6 | 84.9 | 90.3 | 95.9 | 94.8 | 89.9 | 170.4 |
| 160 | 74.7 | 78.6 | 78.5 | 83.5 | 85.5 | 84.5 | 82.8 | 83.3 | 86.2 | 90.2 | 95.4 | 94.5 | 90.6 | 170.7 |
| 200 | 79.0 | 78.4 | 76.3 | 79.4 | 80.6 | 80.7 | 81.8 | 84.0 | 86.6 | 89.0 | 94.2 | 89.2 | 89.2 | 170.3 |
| 250 | 80.5 | 81.9 | 79.8 | 81.9 | 82.2 | 80.0 | 80.8 | 83.4 | 86.8 | 88.9 | 93.4 | 86.2 | 86.2 | 169.5 |
| 315 | 78.1 | 80.2 | 78.7 | 82.0 | 83.1 | 81.1 | 80.1 | 83.3 | 86.1 | 88.4 | 91.6 | 90.5 | 83.8 | 168.2 |
| 400 | 77.0 | 80.1 | 78.9 | 82.1 | 82.1 | 81.6 | 81.3 | 83.1 | 86.5 | 88.8 | 90.0 | 88.8 | 82.5 | 167.6 |
| 500 | 74.9 | 77.7 | 76.8 | 80.9 | 81.3 | 80.6 | 80.9 | 83.9 | 86.7 | 86.5 | 86.7 | 79.7 | 79.7 | 166.5 |
| 630 | 74.6 | 77.0 | 75.7 | 79.1 | 80.3 | 79.4 | 80.2 | 82.7 | 84.8 | 84.0 | 85.8 | 84.6 | 76.1 | 165.3 |
| 800 | 73.5 | 77.2 | 76.6 | 79.0 | 79.5 | 79.4 | 79.2 | 82.6 | 84.7 | 83.1 | 84.2 | 73.8 | 73.8 | 165.1 |
| 1000 | 71.7 | 74.9 | 75.2 | 80.1 | 80.2 | 78.9 | 78.4 | 80.7 | 83.4 | 81.4 | 82.4 | 79.8 | 71.7 | 163.9 |
| 1250 | 69.2 | 73.9 | 74.3 | 78.9 | 81.7 | 79.9 | 78.7 | 80.8 | 82.4 | 80.3 | 80.6 | 79.1 | 68.5 | 164.1 |
| 1600 | 66.1 | 70.3 | 71.3 | 75.5 | 78.2 | 77.8 | 77.8 | 78.5 | 79.9 | 76.8 | 77.5 | 75.5 | 63.8 | 162.8 |
| 2000 | 62.0 | 67.0 | 68.2 | 72.9 | 76.0 | 76.4 | 76.3 | 77.4 | 78.1 | 73.9 | 74.2 | 71.0 | 58.3 | 161.9 |
| 2500 | 57.1 | 62.7 | 64.2 | 69.3 | 72.4 | 73.0 | 72.5 | 74.0 | 74.1 | 70.1 | 68.7 | 65.6 | 50.4 | 160.7 |
| 3150 | 50.2 | 56.4 | 59.6 | 64.0 | 68.2 | 69.1 | 69.2 | 69.4 | 69.3 | 64.8 | 60.8 | 57.4 | 37.8 | 159.9 |
| 4000 | 39.4 | 46.7 | 51.1 | 56.9 | 61.0 | 61.8 | 61.8 | 63.1 | 62.1 | 56.8 | 52.1 | 45.6 | 19.8 | 159.7 |
| 5000 | 25.0 | 36.5 | 41.8 | 47.2 | 52.1 | 54.0 | 52.8 | 54.2 | 52.1 | 46.4 | 40.3 | 30.5 | | 160.8 |
| 6300 | 2.4 | 17.2 | 23.5 | 31.2 | 37.7 | 39.4 | 37.9 | 37.7 | 35.9 | 28.5 | 18.7 | 3.3 | | 161.3 |
| 8000 | | | 8.5 | 14.3 | 14.7 | 14.4 | 14.7 | 14.1 | 10.4 | 0.2 | | | | 163.6 |
| 10000 | | | | | | | | | | | | | | 167.4 |

ORIGINAL PAGE IS
OF POOR QUALITY

| | | | | | | | | | | | | | | |
|-------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|------|-------|
| QASPL | 87.2 | 89.5 | 88.4 | 92.0 | 93.0 | 92.0 | 91.8 | 94.1 | 96.7 | 99.4 | 104.0 | 103.5 | 98.6 | 180.6 |
| PWL | 91.8 | 94.5 | 94.0 | 97.7 | 99.8 | 99.2 | 99.0 | 100.8 | 102.6 | 103.2 | 106.5 | 105.6 | 99.3 | |
| DBA | 81.5 | 84.4 | 83.9 | 87.7 | 89.2 | 88.3 | 88.0 | 90.2 | 92.2 | 91.8 | 94.3 | 93.3 | 86.6 | |

MODEL AREA = 131.5 SQ CM (20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.268 FREQ SHIFT = -9

NASA SHOCK CELL/CIRCULAR C-D NO2/AX/SC-2/NAS3-22514

VEHICL = ADH697 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CONFIG = 2 MODEL = AX PAMB HG = 29.25 RELHUM = 76.6 PCT
IAPLHA = SB59 DEGA = NO WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR
WIND DIR = SB59 DEGA = NO WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR
FINI = LBS XNL RPM XNH XNHR = RPM V8 = 1708.3 FPS AE8 = 20.4 SQ IN
FNAMB = LBS XNLR = XNHR XNH RPM V8 = 1708.3 FPS AE8 = 20.4 SQ IN
CORR FAN SPEED = RPM

RUNPT = 82F-ZER-1207 TAPE = X12071 TEST PT NO = 1207 NC = AE039 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-1208 X1208F

ANGLES MEASURED FROM INLET, DEGREES

PWL

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREQ

50

63

80

100

125

160

200

250

315

400

500

630

800

1000

1250

1600

2000

2500

3150

4000

5000

6300

8000

10000

12500

16000

20000

25000

31500

40000

50000

80000

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| 80000 | 64.7 | 65.9 | 65.3 | 63.2 | 72.8 | 65.9 | 65.2 | 63.7 | 64.4 | 69.6 | 65.6 | 62.5 | 64.4 | 140.6 |
| 63000 | 84.5 | 71.2 | 70.9 | 69.9 | 71.8 | 70.7 | 69.8 | 70.5 | 74.2 | 79.4 | 75.4 | 72.3 | 74.3 | 142.6 |
| 50000 | 78.4 | 75.1 | 75.1 | 77.1 | 77.1 | 76.0 | 74.5 | 76.6 | 78.1 | 79.9 | 78.0 | 76.6 | 78.4 | 138.4 |
| 40000 | 80.0 | 80.7 | 79.1 | 80.6 | 82.1 | 81.5 | 81.0 | 82.7 | 83.0 | 81.7 | 81.6 | 81.2 | 82.2 | 138.6 |
| 31500 | 84.7 | 85.2 | 84.1 | 85.5 | 86.0 | 85.1 | 84.8 | 86.7 | 88.3 | 86.5 | 85.4 | 85.8 | 87.4 | 139.0 |
| 25000 | 88.8 | 90.4 | 88.1 | 90.0 | 89.8 | 89.4 | 90.4 | 92.2 | 88.9 | 88.3 | 88.8 | 90.7 | 139.8 | |
| 20000 | 92.4 | 94.3 | 91.9 | 93.8 | 92.6 | 92.1 | 93.8 | 95.5 | 91.8 | 89.7 | 91.5 | 93.4 | 140.7 | |
| 16000 | 96.7 | 97.1 | 95.3 | 96.6 | 95.8 | 94.8 | 95.5 | 97.5 | 95.3 | 95.3 | 93.6 | 96.9 | 141.9 | |
| 12500 | 100.0 | 100.7 | 98.6 | 100.6 | 99.2 | 97.9 | 96.1 | 97.4 | 100.1 | 97.6 | 97.0 | 95.8 | 99.1 | 143.3 |
| 10000 | 100.2 | 101.0 | 99.3 | 100.9 | 101.4 | 98.6 | 96.8 | 98.5 | 100.7 | 99.4 | 98.6 | 100.6 | 143.4 | |
| 8000 | 100.9 | 102.2 | 98.9 | 99.7 | 100.0 | 97.7 | 95.5 | 97.9 | 102.0 | 101.7 | 100.1 | 99.5 | 102.5 | 143.2 |
| 6300 | 100.5 | 100.5 | 97.4 | 99.0 | 99.3 | 98.0 | 96.1 | 98.9 | 102.9 | 102.1 | 101.0 | 99.8 | 103.1 | 142.8 |
| 5000 | 100.5 | 100.4 | 97.8 | 100.4 | 98.4 | 97.4 | 96.4 | 99.3 | 103.9 | 102.6 | 102.1 | 101.3 | 103.5 | 143.0 |
| 4000 | 101.6 | 102.1 | 99.2 | 101.3 | 97.4 | 97.8 | 100.8 | 103.3 | 103.2 | 103.0 | 102.1 | 103.9 | 143.6 | |
| 3150 | 102.6 | 102.2 | 100.0 | 102.2 | 100.7 | 99.0 | 97.8 | 98.1 | 103.7 | 104.7 | 104.4 | 103.2 | 105.5 | 144.3 |
| 2500 | 105.4 | 104.7 | 100.5 | 101.4 | 101.6 | 98.5 | 95.5 | 97.0 | 102.9 | 104.4 | 106.2 | 106.2 | 106.4 | 145.0 |
| 2000 | 105.7 | 103.6 | 99.3 | 98.9 | 100.3 | 93.3 | 93.3 | 96.0 | 101.5 | 105.0 | 106.7 | 106.9 | 106.6 | 144.7 |
| 1600 | 100.5 | 99.8 | 94.0 | 95.5 | 95.4 | 92.3 | 92.7 | 95.3 | 101.4 | 104.8 | 108.4 | 107.6 | 144.2 | |
| 1250 | 93.7 | 92.9 | 89.0 | 91.8 | 93.4 | 91.3 | 91.5 | 94.1 | 101.2 | 104.5 | 110.7 | 108.7 | 144.7 | |
| 1000 | 91.4 | 89.8 | 87.9 | 89.6 | 90.7 | 89.7 | 90.0 | 93.0 | 99.6 | 105.0 | 110.9 | 109.9 | 144.9 | |
| 800 | 89.9 | 86.9 | 86.7 | 88.0 | 89.4 | 89.4 | 91.8 | 98.5 | 104.9 | 111.9 | 112.4 | 109.1 | 146.0 | |
| 630 | 88.8 | 88.6 | 84.3 | 87.4 | 88.7 | 87.3 | 87.1 | 90.5 | 96.4 | 104.0 | 110.2 | 111.7 | 144.7 | |
| 500 | 88.0 | 88.7 | 84.9 | 87.3 | 87.2 | 86.1 | 85.1 | 87.6 | 94.1 | 101.1 | 107.7 | 110.1 | 142.8 | |
| 400 | 87.7 | 88.6 | 84.3 | 87.3 | 87.1 | 85.4 | 84.7 | 85.9 | 90.5 | 97.3 | 104.0 | 107.1 | 140.0 | |
| 315 | 86.5 | 87.8 | 83.1 | 85.3 | 87.1 | 84.8 | 84.7 | 85.1 | 89.9 | 94.9 | 100.9 | 105.6 | 138.5 | |
| 250 | 86.5 | 87.8 | 83.1 | 85.3 | 84.8 | 84.6 | 84.1 | 85.3 | 89.2 | 91.6 | 97.9 | 102.6 | 136.8 | |

ORIGINAL PAGE IS
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VEHICL = ADH708 TEST DATE = 03-16-82
 LOCAL = C41 ANECH CH CONFIG = 2
 PWL AREA = FULL SPHERE TAMB F = 69.00
 EXT DIST = 40.0 FT EXT CONFIG = ARC
 DEG WIND VEL = NG
 FNRAMB = LBS XNL RPM XNHR = RPM V8 = 1713.8 FPS AE8 = 20.4 SQ IN
 = 0. SQ IN
 FBH = 400. FPS
 FLTVEL = AX
 PAMB HG = 29.30
 RELHUM = 76.6 PCT
 NBFR =

NASA SHOCK CELL/CIRCULAR C-D NO2/AX/SC-2/NAS3-22514

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

RUNPT = 82F-400-1208 TAPE = X1208F TEST PT NO = 1208 NC = AE039 CORR FAN SPEED = RPM

59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

| FREQ | | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL |
|-------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-----|
| 50 | 66.6 | 69.1 | 65.8 | 69.6 | 69.7 | 68.2 | 67.4 | 68.2 | 72.1 | 77.8 | 82.9 | 83.8 | 79.2 | 158.3 | |
| 63 | 66.9 | 69.2 | 66.5 | 69.5 | 69.9 | 68.8 | 67.8 | 69.9 | 75.6 | 81.5 | 86.6 | 86.8 | 79.8 | 161.1 | |
| 80 | 67.6 | 68.9 | 65.8 | 69.6 | 71.3 | 70.0 | 69.7 | 72.0 | 77.9 | 84.4 | 89.7 | 88.3 | 81.1 | 163.1 | |
| 100 | 68.7 | 70.2 | 68.3 | 70.8 | 72.1 | 70.7 | 71.9 | 74.0 | 77.4 | 84.4 | 90.7 | 88.9 | 82.2 | 164.3 | |
| 125 | 70.1 | 70.0 | 69.2 | 71.7 | 73.2 | 72.3 | 72.5 | 75.1 | 80.9 | 85.2 | 89.5 | 86.3 | 82.1 | 163.3 | |
| 160 | 72.2 | 73.0 | 70.2 | 73.8 | 75.8 | 73.8 | 73.8 | 76.1 | 82.4 | 84.5 | 89.2 | 84.5 | 81.3 | 163.0 | |
| 200 | 73.7 | 75.0 | 77.3 | 77.7 | 74.9 | 77.6 | 77.1 | 82.4 | 84.7 | 86.6 | 84.5 | 79.6 | 79.6 | 162.6 | |
| 250 | 78.7 | 80.1 | 80.4 | 82.3 | 77.5 | 75.4 | 77.6 | 82.3 | 84.6 | 84.6 | 82.3 | 78.0 | 163.0 | | |
| 315 | 82.9 | 84.0 | 80.9 | 82.7 | 80.4 | 77.3 | 76.3 | 83.4 | 83.7 | 83.6 | 81.0 | 77.0 | 163.4 | | |
| 400 | 79.6 | 81.0 | 83.1 | 82.2 | 80.6 | 79.2 | 79.1 | 83.8 | 83.5 | 81.3 | 77.4 | 75.0 | 162.6 | | |
| 500 | 78.1 | 80.6 | 79.0 | 80.4 | 78.7 | 79.0 | 81.3 | 83.1 | 81.7 | 79.4 | 75.6 | 72.5 | 161.9 | | |
| 630 | 76.5 | 78.5 | 77.3 | 80.7 | 78.4 | 77.3 | 79.7 | 83.4 | 80.7 | 78.1 | 74.1 | 71.1 | 161.4 | | |
| 800 | 76.0 | 78.2 | 76.5 | 79.1 | 78.9 | 76.7 | 79.0 | 82.1 | 79.8 | 76.5 | 71.9 | 69.5 | 161.1 | | |
| 1000 | 76.0 | 77.9 | 77.9 | 80.5 | 78.4 | 76.0 | 77.9 | 81.0 | 79.1 | 75.2 | 73.4 | 69.2 | 161.8 | | |
| 1250 | 74.7 | 78.1 | 78.0 | 81.8 | 79.2 | 78.3 | 79.4 | 76.4 | 73.4 | 69.2 | 64.3 | 161.8 | | | |
| 1600 | 73.7 | 77.2 | 76.9 | 80.0 | 79.3 | 78.2 | 76.8 | 78.4 | 74.1 | 70.7 | 65.1 | 60.6 | 161.6 | | |
| 2000 | 69.4 | 73.0 | 73.2 | 75.8 | 76.5 | 74.7 | 75.4 | 71.2 | 68.1 | 61.3 | 55.3 | 160.3 | | | |
| 2500 | 63.4 | 68.9 | 68.9 | 72.3 | 73.0 | 72.2 | 71.5 | 72.3 | 72.5 | 66.5 | 60.6 | 56.4 | 159.1 | | |
| 3150 | 56.3 | 62.6 | 63.3 | 67.0 | 68.0 | 67.4 | 67.4 | 67.3 | 61.1 | 55.8 | 48.6 | 35.8 | 158.2 | | |
| 4000 | 46.0 | 52.7 | 55.4 | 59.2 | 61.0 | 60.5 | 59.8 | 59.7 | 54.0 | 46.7 | 36.7 | 18.0 | 157.4 | | |
| 5000 | 31.6 | 40.6 | 44.2 | 48.8 | 52.0 | 51.4 | 50.9 | 48.1 | 41.6 | 33.2 | 18.4 | | 156.9 | | |
| 6300 | 12.0 | 28.1 | 32.6 | 37.0 | 36.7 | 34.0 | 34.1 | 31.1 | 25.6 | 11.8 | | | 156.8 | | |
| 8000 | | 2.6 | 8.1 | 13.6 | 13.6 | 11.6 | 8.7 | 5.9 | 0.3 | | | | 160.9 | | |
| 10000 | | | | | | | | | | | | | 159.0 | | |

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1211 X1211C

BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 80.7 | 79.2 | 80.0 | 82.8 | 81.9 | 79.2 | 80.6 | 79.8 | 82.7 | 86.8 | 88.9 | 96.1 | 95.5 | 129.0 |
| 63 | 84.7 | 84.0 | 88.6 | 87.7 | 84.5 | 91.2 | 86.3 | 88.3 | 88.3 | 88.1 | 90.2 | 97.4 | 97.1 | 132.3 |
| 80 | 86.3 | 90.1 | 83.3 | 87.4 | 87.5 | 86.2 | 89.1 | 90.8 | 89.1 | 90.8 | 87.9 | 91.0 | 94.7 | 131.6 |
| 100 | 85.3 | 89.3 | 83.6 | 87.9 | 88.7 | 87.9 | 87.7 | 91.4 | 91.6 | 89.7 | 94.1 | 99.0 | 99.9 | 133.9 |
| 125 | 83.9 | 84.9 | 88.4 | 89.3 | 88.9 | 87.8 | 89.2 | 90.4 | 90.7 | 98.4 | 101.8 | 104.2 | 136.3 | |
| 150 | 83.3 | 80.6 | 84.3 | 84.9 | 86.0 | 85.8 | 86.7 | 87.4 | 89.8 | 91.4 | 98.3 | 102.2 | 106.6 | 137.1 |
| 200 | 82.8 | 85.8 | 84.3 | 87.1 | 88.0 | 87.3 | 88.2 | 92.4 | 94.3 | 94.1 | 100.5 | 106.5 | 109.1 | 140.2 |
| 250 | 83.0 | 90.3 | 87.6 | 88.2 | 90.3 | 91.7 | 93.9 | 95.3 | 99.1 | 105.5 | 110.7 | 112.1 | 143.8 | |
| 315 | 84.6 | 87.9 | 85.1 | 90.2 | 92.0 | 90.4 | 90.8 | 94.2 | 97.4 | 100.9 | 112.0 | 114.2 | 145.6 | |
| 400 | 85.1 | 88.6 | 86.9 | 89.2 | 90.5 | 89.4 | 91.8 | 94.9 | 98.9 | 104.7 | 110.8 | 114.8 | 115.2 | 147.7 |
| 500 | 87.4 | 89.5 | 87.0 | 89.8 | 91.1 | 91.2 | 92.1 | 95.0 | 99.3 | 106.1 | 113.2 | 116.4 | 115.5 | 149.1 |
| 630 | 88.6 | 91.1 | 89.1 | 91.9 | 93.2 | 92.9 | 93.2 | 96.9 | 101.4 | 108.7 | 115.6 | 117.5 | 115.7 | 150.5 |
| 800 | 92.9 | 92.5 | 91.5 | 94.5 | 94.6 | 94.0 | 95.4 | 98.3 | 102.8 | 109.8 | 116.5 | 117.4 | 117.5 | 151.3 |
| 1000 | 99.0 | 100.5 | 97.5 | 99.8 | 98.6 | 96.3 | 95.9 | 99.8 | 104.0 | 111.1 | 117.2 | 118.6 | 117.6 | 152.3 |
| 1250 | 96.2 | 99.3 | 101.6 | 102.6 | 101.8 | 100.9 | 101.1 | 105.6 | 117.0 | 118.4 | 117.7 | 117.9 | 115.2 | 152.3 |
| 1500 | 99.7 | 98.0 | 97.6 | 98.2 | 97.8 | 99.9 | 102.2 | 105.6 | 109.1 | 117.3 | 118.4 | 117.7 | 115.2 | |
| 2000 | 102.2 | 102.1 | 98.2 | 99.6 | 99.4 | 97.8 | 98.5 | 101.6 | 106.5 | 109.5 | 115.8 | 118.1 | 115.6 | 151.4 |
| 2500 | 99.9 | 100.7 | 98.0 | 100.2 | 100.8 | 99.2 | 98.6 | 102.2 | 105.9 | 109.6 | 114.4 | 116.0 | 113.5 | 150.1 |
| 3150 | 99.7 | 100.5 | 98.1 | 100.7 | 99.5 | 99.6 | 102.1 | 106.4 | 108.5 | 113.5 | 114.9 | 112.9 | 111.1 | 149.4 |
| 4000 | 98.4 | 98.7 | 96.2 | 99.3 | 100.1 | 98.8 | 99.2 | 103.0 | 106.1 | 108.3 | 111.6 | 112.9 | 111.1 | 148.1 |
| 5000 | 98.6 | 99.2 | 96.7 | 98.5 | 98.7 | 98.1 | 99.3 | 102.3 | 105.3 | 105.9 | 110.5 | 111.6 | 108.8 | 147.0 |
| 6300 | 98.3 | 100.2 | 97.6 | 99.9 | 99.6 | 98.5 | 98.8 | 102.0 | 105.5 | 109.6 | 110.2 | 107.2 | 104.7 | |
| 8000 | 96.4 | 97.7 | 97.3 | 99.7 | 100.2 | 99.0 | 97.7 | 100.8 | 104.5 | 104.3 | 107.8 | 106.2 | 104.5 | |
| 10000 | 94.4 | 96.8 | 96.1 | 99.4 | 100.9 | 99.9 | 98.9 | 100.6 | 102.9 | 103.8 | 106.8 | 107.5 | 104.8 | 145.6 |
| 12500 | 92.1 | 94.5 | 93.6 | 96.6 | 98.6 | 98.4 | 97.2 | 99.1 | 100.9 | 100.8 | 104.3 | 105.4 | 102.9 | 144.3 |
| 16000 | 89.8 | 91.6 | 90.6 | 94.2 | 95.8 | 96.0 | 96.6 | 97.9 | 100.5 | 98.3 | 102.3 | 102.8 | 100.1 | 143.7 |
| 20000 | 85.9 | 88.8 | 88.6 | 87.7 | 91.0 | 93.1 | 93.3 | 96.7 | 97.6 | 95.9 | 99.5 | 100.3 | 97.2 | 142.7 |
| 25000 | 82.9 | 84.9 | 84.7 | 88.1 | 90.2 | 91.0 | 90.9 | 93.0 | 94.7 | 92.3 | 95.5 | 97.5 | 93.3 | 142.0 |
| 31500 | 78.3 | 81.0 | 80.5 | 83.7 | 86.5 | 86.6 | 86.8 | 89.4 | 90.5 | 90.1 | 93.7 | 94.2 | 90.0 | 141.8 |
| 40000 | 74.4 | 76.6 | 76.9 | 79.4 | 82.8 | 83.0 | 83.3 | 85.9 | 87.0 | 87.5 | 91.5 | 92.0 | 85.9 | 142.8 |
| 50000 | 69.1 | 72.0 | 71.0 | 74.2 | 77.7 | 78.2 | 78.4 | 80.5 | 83.6 | 83.0 | 88.5 | 89.6 | 84.3 | 143.7 |
| 63000 | 63.3 | 67.7 | 66.3 | 69.7 | 73.0 | 74.0 | 72.9 | 75.9 | 79.3 | 78.1 | 86.1 | 87.2 | 83.2 | 145.9 |
| 80000 | 60.8 | 65.2 | 63.6 | 65.0 | 67.5 | 69.9 | 67.5 | 71.7 | 75.5 | 75.9 | 84.2 | 83.2 | 78.8 | 149.5 |
| DBA | 110.1 | 110.8 | 108.3 | 110.7 | 111.2 | 110.0 | 110.2 | 112.9 | 116.7 | 120.2 | 126.2 | 127.8 | 126.5 | |
| PWL | 122.6 | 123.6 | 124.1 | 123.7 | 125.6 | 124.6 | 124.3 | 126.3 | 129.7 | 132.5 | 137.7 | 139.5 | 138.1 | |
| GASPL | 109.7 | 110.7 | 108.4 | 110.9 | 111.6 | 110.6 | 110.7 | 113.3 | 116.8 | 120.2 | 126.3 | 128.0 | 127.1 | 162.6 |

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICLE = ADH698 TEST DATE = 03-16-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVL = 0. FPS
WIND DIR = SB59 DEG WIND VEL = NO MPH PWL AREA = FULL SPHERE EXT DIST = 40.0 FT EXT CONFIG = ARC TAMB F = 69.00 MIKE HT = 29.25 RELHUM = 76.6 PCT
FINIT = LBS XNL = RPM XNHR = RPM V8 = 1714.1 FPS AE8 = 20.4 SQ IN CORR FAN SPEED = RPM
FNAMB = LBS XNL = RPM XNHR = RPM V8 = 1714.1 FPS AE8 = 20.4 SQ IN CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

ANGLES MEASURED FROM INLET, DEGREES

PWL

| FREQ | 50 | 63 | 80 | 100 | 125 | 160 | 200 | 250 | 315 | 400 | 500 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 2500 | 3150 | 4000 | 5000 | 6300 | 8000 | 10000 | 12500 | 15000 | 18000 | 20000 | ASPL | PWL | |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 80 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 85 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 90 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 95 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 100 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 105 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 110 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 115 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 120 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 125 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 130 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 135 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 140 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 145 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 150 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 155 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 160 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 165 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 170 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 175 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 180 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 185 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 190 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 195 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 200 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 205 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 210 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 215 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 220 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 225 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 230 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 235 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 240 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 245 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 250 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 255 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 260 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 265 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 270 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 103.5 | 104.6 | 105.7 | 106.8 | 107.9 | 109.0 | 110.1 | 111.2 | 112.3 | 113.4 | 114.5 | 115.6 |
| 275 | 86.3 | 89.3 | 84.9 | 88.9 | 89.0 | 89.3 | 89.6 | 90.3 | 91.4 | 92.5 | 93.6 | 94.7 | 95.8 | 96.9 | 98.0 | 99.1 | 100.2 | 101.3 | 102.4 | 10 | | | | | | | | | | | |

**ORIGINAL PAGE IS
OF POOR QUALITY**

| | | | | |
|---|----------------------|------------------|-------|------------------------------|
| MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 | FREE JET VEL (FPS) = | 0. , DIAM (IN) = | 48.00 | REFR CORR YES, TURB CORR YES |
|---|----------------------|------------------|-------|------------------------------|

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

| | | | | | | | | | | | | | | | | | |
|----------|---|--------|-----------|---|----------|----------|---|--------------|--------|---|-------|----------|---|---------|------------|---|----------|
| VEHICL | = | ADH698 | TEST DATE | = | 03-16-82 | LOCAT | = | C41 ANECH CH | CONFIG | = | 2 | MODEL | = | AX | FLVEL | = | 0. FPS |
| IAPLHA | = | SB59 | LEGA, | = | NO | PWL AREA | = | FULL SPHERE | TAMB F | = | 69.00 | PAMB HG | = | 29.25 | RELHUM | = | 76.6 PCT |
| WIND DIR | = | | DEG | | | WIND VEL | = | | MPH | | | EXT DIST | = | 40.0 FT | EXT CONFIG | = | ARC |
| | | | | | | | | | | | | MIKE HT | = | | NBFR | = | |

| | | | | | | | | | | | | | | | |
|-------|---|-----|------|-----|------|---|-----|-----|---|-----|------|---|------|----|----|
| FN1 | = | LBS | XNL | RPM | XNH | = | RPM | V8 | = | FPS | AE8 | = | 20.4 | SO | IN |
| FNAMB | = | LBS | XNLR | RPM | XNHR | = | RPM | V18 | = | FPS | AE18 | = | 0. | SO | IN |

RUNPT = ·ZER-1211 TAPE = X1211F TEST PT NO = 1211 NC = AE039 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1211 X12111

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 64.0 69.1 68.4 71.4 73.2 72.2 74.4 77.2 80.4 85.2 89.8 91.5 88.6 166.1
63 66.3 69.9 72.0 73.8 74.6 77.3 80.8 86.5 92.1 93.1 88.9 167.5
80 67.4 71.5 70.6 74.1 75.9 75.6 79.1 82.8 89.1 94.4 94.1 88.9 168.9
100 71.7 72.8 72.9 76.7 77.2 76.7 77.9 80.4 84.2 90.2 95.2 93.9 169.7
125 77.6 80.7 78.9 81.9 81.1 78.9 78.4 81.9 85.4 91.3 95.9 90.4 170.7
160 74.7 79.3 79.0 83.5 84.3 83.3 83.0 86.5 90.4 95.4 94.5 90.4 170.7
200 78.0 77.9 76.6 79.4 80.4 80.2 82.1 84.0 86.6 89.0 95.5 94.2 89.7 170.6
250 80.0 81.7 79.0 81.2 81.5 80.0 80.6 83.2 87.3 89.1 93.7 87.0 169.8
315 77.4 79.9 78.4 81.5 82.6 81.1 80.4 83.5 86.9 91.9 90.8 84.0 168.4
400 76.7 79.4 78.2 81.3 82.1 81.1 81.1 83.1 86.5 87.3 90.5 89.1 82.5 167.8
500 74.9 77.2 76.0 79.9 81.3 80.1 80.4 83.7 85.9 86.8 88.1 86.4 79.7 166.5
630 74.6 77.3 76.2 78.9 79.6 79.2 80.2 82.7 84.8 84.0 86.5 84.4 76.3 165.4
800 73.8 77.9 76.8 80.0 80.2 79.4 79.5 82.1 84.7 83.3 85.4 82.3 73.6 165.1
1000 71.4 75.1 76.2 79.6 80.7 79.7 78.2 80.7 83.4 81.7 82.9 79.8 71.4 164.1
1250 68.9 73.9 74.8 79.1 81.2 80.4 79.2 80.3 81.6 80.3 81.3 78.1 68.5 163.9
1600 65.8 71.0 71.8 76.0 78.7 77.3 76.5 79.2 77.3 78.0 74.7 64.3 162.7
2000 62.5 67.5 68.5 73.4 75.7 76.2 77.1 78.4 74.2 75.0 70.5 58.5 162.0
2500 56.9 63.5 64.7 69.5 72.4 73.0 73.0 74.3 74.6 70.6 70.5 50.7 161.1
3150 50.0 57.1 59.8 65.0 68.2 69.3 68.9 69.9 69.8 64.5 63.0 38.3 160.3
4000 39.6 48.5 51.9 57.4 61.5 62.0 61.8 63.1 61.9 57.5 55.1 20.6 160.2
5000 26.0 36.5 42.0 47.7 52.9 53.5 53.3 54.2 52.1 47.4 43.0 29.3 161.2
5300 2.9 17.7 24.0 31.7 37.7 38.9 38.4 38.0 36.7 28.7 22.2 2.8 162.1

8000 10000 12500 16000 20000 25000 31500 40000 50000 63000 80000

QASPL 86.9 89.5 88.4 91.8 92.8 91.9 91.8 94.0 96.9 99.7 104.2 103.5 98.8 180.8
PNL 91.5 94.5 93.9 97.6 99.5 99.2 99.1 100.6 102.7 103.5 107.0 105.5 99.6
PNLT 92.6 95.3 93.9 97.6 100.3 100.0 99.6 100.6 103.2 103.5 107.0 106.7 99.6
DBA 81.3 84.5 84.1 87.6 89.0 88.4 88.0 88.0 90.0 92.2 92.0 94.8 93.2 86.8

MODEL AREA = 131.5 SQ CM (20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

NASA SHOCK CELL/CIRCULAR C-D NO2/AX/SC-2/NAS3-22514

VEHICL = ADH698 TEST DATE = 03-16-82
IAPLHA = SB59
WIND DIR = DEG WIND VEL = MPH
LOCAL = C41 ANECH CH CONFIO = 2
TAMB F = FULL SPHERE
EXT DIST = 2400.0 FT
EXT CONFIO = SL
PAMB HG = 29.25
RELHUM = 76.6 PCT
FLTVEL = 0. FPS
MODEL = AX
MIKE HT = NBFR

FNINI = LBS XNL = RPM XNHR = RPM V8 = 1714.1 FPS AEB = 20.4 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 1714.1 FPS AEB = 20.4 SQ IN

RUNPT = 82F-ZER-1211 TAPE = X12111 TEST PT NO = 1211 NC = AE039 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1212 X1212C
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|---|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PWL | 84.7 | 83.5 | 81.0 | 82.0 | 81.6 | 81.2 | 83.1 | 82.5 | 84.2 | 82.3 | 89.7 | 90.9 | 127.9 |
| 50 | 84.7 | 83.5 | 81.0 | 82.0 | 81.6 | 81.2 | 83.1 | 82.5 | 84.2 | 82.3 | 89.7 | 90.9 | 127.9 |
| 63 | 85.0 | 84.3 | 82.3 | 83.3 | 82.4 | 81.4 | 87.6 | 89.0 | 85.9 | 90.2 | 91.4 | 94.8 | 131.0 |
| 80 | 85.8 | 84.8 | 83.3 | 84.1 | 83.5 | 82.1 | 87.2 | 87.9 | 86.9 | 89.8 | 93.0 | 96.1 | 130.9 |
| 100 | 84.1 | 83.1 | 81.9 | 82.7 | 82.2 | 80.9 | 86.0 | 86.2 | 89.4 | 86.9 | 91.6 | 97.0 | 132.1 |
| 125 | 82.1 | 80.6 | 79.9 | 80.4 | 79.5 | 78.2 | 83.3 | 83.7 | 86.2 | 88.2 | 91.3 | 95.6 | 134.3 |
| 160 | 79.3 | 79.1 | 78.3 | 79.4 | 78.2 | 76.8 | 82.8 | 83.5 | 86.1 | 88.7 | 91.5 | 94.1 | 134.4 |
| 200 | 80.5 | 80.6 | 80.6 | 81.3 | 80.6 | 79.4 | 83.3 | 84.0 | 86.1 | 88.1 | 91.1 | 94.4 | 136.7 |
| 250 | 79.3 | 79.3 | 79.6 | 80.1 | 79.7 | 78.1 | 83.7 | 84.0 | 86.9 | 88.9 | 91.4 | 94.4 | 139.4 |
| 315 | 79.3 | 79.3 | 80.1 | 80.9 | 80.1 | 78.5 | 83.9 | 84.5 | 86.9 | 88.2 | 91.0 | 94.4 | 140.5 |
| 400 | 80.8 | 80.4 | 80.1 | 81.7 | 80.7 | 79.1 | 85.0 | 85.5 | 87.2 | 89.2 | 91.4 | 94.4 | 142.1 |
| 500 | 81.7 | 80.5 | 80.5 | 82.2 | 81.1 | 79.4 | 86.0 | 86.4 | 88.3 | 90.3 | 92.4 | 95.2 | 142.9 |
| 630 | 82.6 | 80.6 | 80.6 | 82.6 | 81.4 | 79.7 | 87.0 | 87.2 | 89.6 | 91.6 | 93.7 | 96.1 | 143.8 |
| 800 | 84.7 | 83.3 | 83.3 | 84.7 | 83.9 | 82.5 | 89.4 | 89.6 | 91.3 | 93.0 | 95.4 | 97.6 | 144.4 |
| 1000 | 86.7 | 85.5 | 85.3 | 86.3 | 85.4 | 84.6 | 90.4 | 90.6 | 92.3 | 94.0 | 96.3 | 98.6 | 144.8 |
| 1250 | 90.7 | 89.3 | 89.3 | 90.3 | 89.3 | 88.1 | 95.6 | 95.6 | 97.0 | 98.6 | 100.0 | 101.2 | 144.1 |
| 1600 | 95.5 | 95.0 | 94.8 | 95.8 | 94.8 | 93.3 | 99.2 | 99.2 | 101.1 | 102.5 | 103.7 | 104.1 | 143.7 |
| 2000 | 95.9 | 95.9 | 95.9 | 96.1 | 95.9 | 94.6 | 99.4 | 99.4 | 101.5 | 102.5 | 103.7 | 104.1 | 142.8 |
| 2500 | 94.1 | 95.2 | 93.2 | 96.0 | 96.8 | 94.9 | 97.0 | 97.0 | 100.6 | 104.9 | 106.4 | 101.5 | 141.8 |
| 3150 | 92.2 | 94.0 | 91.8 | 94.6 | 95.9 | 93.3 | 97.3 | 97.3 | 101.4 | 103.6 | 102.3 | 97.9 | 140.8 |
| 4000 | 92.7 | 93.0 | 90.7 | 93.3 | 93.6 | 90.3 | 95.2 | 95.2 | 99.3 | 104.3 | 102.3 | 92.9 | 140.4 |
| 5000 | 95.9 | 95.4 | 92.7 | 93.7 | 93.4 | 92.1 | 97.3 | 97.3 | 100.8 | 100.9 | 95.8 | 91.8 | 139.4 |
| 6300 | 97.5 | 98.0 | 95.6 | 96.1 | 95.1 | 93.8 | 97.5 | 97.5 | 101.2 | 101.4 | 99.4 | 95.5 | 140.3 |
| 8000 | 94.4 | 95.3 | 97.7 | 97.2 | 95.0 | 93.2 | 99.8 | 99.8 | 100.2 | 98.8 | 93.6 | 89.7 | 140.0 |
| 10000 | 92.9 | 94.1 | 93.1 | 96.9 | 96.1 | 95.4 | 96.6 | 96.6 | 98.9 | 98.8 | 93.2 | 89.0 | 140.1 |
| 12500 | 90.1 | 91.0 | 90.6 | 93.1 | 95.4 | 95.6 | 94.4 | 96.1 | 97.7 | 96.1 | 94.6 | 91.6 | 139.0 |
| 16000 | 86.8 | 88.6 | 87.8 | 90.7 | 92.5 | 93.1 | 94.9 | 96.2 | 93.8 | 92.3 | 90.1 | 84.6 | 138.3 |
| 20000 | 83.7 | 85.8 | 84.7 | 87.3 | 89.6 | 89.7 | 92.0 | 93.3 | 91.4 | 89.0 | 86.0 | 81.4 | 137.2 |
| 25000 | 79.7 | 81.2 | 81.7 | 83.8 | 86.4 | 87.0 | 88.7 | 89.4 | 87.6 | 86.0 | 83.5 | 78.0 | 136.3 |
| 31500 | 75.3 | 77.5 | 76.5 | 80.2 | 82.0 | 82.6 | 85.4 | 86.0 | 83.6 | 82.0 | 79.4 | 74.0 | 135.4 |
| 40000 | 70.2 | 72.7 | 74.9 | 78.1 | 79.0 | 78.8 | 81.4 | 81.7 | 79.3 | 78.7 | 76.0 | 69.4 | 135.3 |
| 50000 | 64.9 | 67.8 | 66.2 | 69.2 | 73.0 | 73.5 | 72.9 | 75.5 | 77.4 | 73.5 | 70.9 | 63.8 | 134.3 |
| 63000 | 59.8 | 64.2 | 60.8 | 63.7 | 67.3 | 68.5 | 67.6 | 69.9 | 71.8 | 68.6 | 65.7 | 58.4 | 134.3 |
| 80000 | 58.5 | 63.5 | 56.1 | 59.5 | 62.3 | 61.7 | 61.8 | 63.7 | 66.5 | 63.9 | 62.7 | 59.2 | 136.0 |
| DBA | 105.2 | 105.9 | 103.7 | 105.8 | 106.0 | 104.6 | 104.6 | 108.0 | 111.9 | 115.6 | 119.6 | 117.2 | 111.4 |
| PNL | 118.2 | 119.0 | 116.8 | 118.8 | 119.2 | 118.4 | 118.6 | 122.0 | 125.0 | 127.9 | 130.4 | 127.9 | 124.0 |
| PWLT | 118.2 | 119.0 | 116.8 | 118.8 | 119.2 | 118.4 | 118.6 | 122.0 | 125.0 | 127.9 | 130.4 | 127.9 | 124.0 |
| ASPL | 105.3 | 106.2 | 104.2 | 106.4 | 105.8 | 105.8 | 108.7 | 112.2 | 115.7 | 119.9 | 119.0 | 116.1 | 155.3 |
| NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514 | | | | | | | | | | | | | |
| VEHICL | = ADH707 | | | | | | | | | | | | |
| IAPLHA | = SB59 | | | | | | | | | | | | |
| WIND DIR | = DEG | | | | | | | | | | | | |
| WIND VEL | = MPH | | | | | | | | | | | | |
| TEST DATE | = 03-16-82 | | | | | | | | | | | | |
| LOCAT | = C41 ANECH CH | | | | | | | | | | | | |
| CONFIG | = 2 | | | | | | | | | | | | |
| MODEL | = AX | | | | | | | | | | | | |
| FLTVEL | = 400. FPS | | | | | | | | | | | | |
| RELHUM | = 76.6 PCT | | | | | | | | | | | | |
| NBR | = | | | | | | | | | | | | |
| MIKE HT | = | | | | | | | | | | | | |
| PAMB HG | = 29.25 | | | | | | | | | | | | |
| TAMB F | = 69.00 | | | | | | | | | | | | |
| EXT CONFIG | = ARC | | | | | | | | | | | | |
| EXT DIST | = 40.0 FT | | | | | | | | | | | | |
| PWL AREA | = FULL SPHERE | | | | | | | | | | | | |
| RPM | = | | | | | | | | | | | | |
| XNH | = | | | | | | | | | | | | |
| XNHR | = | | | | | | | | | | | | |
| V8 | = 1724.6 FPS | | | | | | | | | | | | |
| AE8 | = 20.4 SQ IN | | | | | | | | | | | | |
| AE18 | = 0. SQ IN | | | | | | | | | | | | |
| CORR FAN SPEED | = RPM | | | | | | | | | | | | |
| NC | = AE039 | | | | | | | | | | | | |
| TEST PT NO | = 1212 | | | | | | | | | | | | |
| TAPE | = X1212C | | | | | | | | | | | | |
| RUNPT | = 82F-ZER-1212 | | | | | | | | | | | | |

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OF POOR QUALITY

DATPRC - FLTRAN

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1212 X1212F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

200
150
125
100
80
63
50
40250 85.7 88.7 83.8 86.0 85.1 85.1 83.8 85.3 89.2 92.1 98.2 102.8 105.8 136.9
315 85.7 88.7 83.8 86.0 85.1 85.3 84.7 86.4 90.1 95.4 101.9 105.8 106.5 139.0
400 87.0 88.7 85.1 87.3 86.7 85.4 84.2 86.4 91.0 97.6 104.2 107.6 106.1 140.3
500 87.4 89.0 84.6 87.8 88.0 86.3 85.1 87.6 94.2 102.0 107.3 110.2 106.7 142.8
630 88.8 89.3 85.3 88.4 88.9 87.8 87.1 90.4 97.4 104.1 110.3 111.5 108.4 144.8
800 89.7 90.7 87.4 89.3 89.9 88.9 89.1 91.3 98.7 105.8 112.1 109.9 146.1
1000 91.8 90.6 88.1 90.7 91.0 89.9 90.0 93.2 99.8 105.5 111.4 110.0 109.8 145.3
1250 94.0 92.9 88.7 91.8 93.4 91.3 91.5 94.4 101.2 105.1 111.0 109.4 109.4 145.1
1600 96.5 93.0 95.0 94.4 92.3 91.9 95.3 101.4 105.3 108.3 108.3 144.3
2000 102.4 100.7 97.2 96.9 98.3 94.6 93.3 95.7 101.4 105.7 107.9 106.4 107.4 144.2
2500 102.0 102.1 98.2 99.1 99.5 96.5 94.0 96.7 102.8 104.7 105.8 104.2 106.8 143.8
3150 99.9 100.5 97.7 99.6 99.2 97.5 97.0 97.7 103.2 105.3 104.7 103.6 143.6
4000 99.5 100.5 97.3 98.9 97.0 95.9 96.9 100.0 103.2 103.0 103.0 142.9
5000 98.4 98.3 95.5 97.3 96.9 95.1 95.6 98.6 103.5 103.5 102.2 101.6 104.3 142.4
6300 101.9 100.8 97.3 97.6 98.6 96.8 95.3 98.7 102.9 102.3 101.4 100.0 103.3 142.7
8000 103.5 103.2 100.1 99.9 101.1 98.0 95.5 97.6 102.3 101.9 99.9 102.6 143.8
10000 100.7 101.6 100.4 102.1 99.4 97.8 96.3 98.3 101.5 99.7 98.5 100.8 144.0
12500 99.7 100.2 98.3 101.1 99.4 98.6 96.9 98.0 100.6 98.0 97.0 99.5 143.6
16000 96.5 96.6 95.3 96.8 95.5 95.5 95.5 96.8 98.0 96.0 94.3 96.5 142.2
20000 92.7 93.8 92.1 94.0 93.6 93.1 92.1 93.8 95.8 92.9 91.9 92.8 141.0
25000 89.0 90.4 88.4 90.0 89.1 90.5 89.2 89.7 88.6 88.6 88.6 89.5 140.1
31500 87.0 87.3 86.3 86.9 86.6 85.6 85.0 87.2 86.6 86.0 86.2 86.8 139.8
40000 82.7 80.3 82.4 82.7 82.0 81.2 83.2 84.4 80.4 80.8 81.9 82.1 139.3
50000 76.3 77.6 76.1 76.7 77.6 75.3 77.1 79.6 76.3 76.7 77.5 77.6 138.6
63000 70.0 71.7 68.7 70.1 71.9 71.5 70.0 71.5 75.5 72.7 72.2 73.2 138.7
80000 63.5 66.6 61.8 63.1 66.5 64.7 64.1 65.0 65.7 62.9 62.4 62.3 138.1CASPL 111.4 111.4 108.6 109.9 109.9 107.9 106.9 109.0 113.6 115.9 119.7 119.7 119.3 156.9
PNLT 123.1 123.2 119.9 121.4 121.3 119.4 118.7 121.4 125.8 128.1 129.5 129.0 130.3
PNLT 124.1 123.2 119.9 121.4 121.3 119.4 118.7 121.4 125.8 128.1 129.5 129.0 130.3
DBA 185.9 188.4 184.5 185.8 188.4 187.0 186.1 187.3 189.3 186.4 186.0 186.2 187.0

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH707 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEQA = NO MPH EXT DIST = 40.0 FT TAMB F = 69.00 PAMB HG = 29.25 RELHUM = 76.6 PCT
WIND DIR = SB59 DEG WIND VEL = NO WIND VEL = 40.0 FT EXT CNFIG = ARC MIKE HT = NBFR
FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 1724.6 FPS AE8 = 20.4 SQ IN
FNRAMB = LBS XNLR = RPM V8 = 1724.6 FPS AE18 = 0. SQ IN
RUNPT = 82F-ZER-1212 TAPE = X1212F TEST PT NO = 1212 NC = AE039 CORR FAN SPEED = RPMORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1212 X12121

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 65.9 69.2 66.6 69.6 69.4 68.2 66.9 68.7 72.6 78.1 83.1 84.3 79.5 158.7

63 66.3 69.4 66.1 70.0 70.6 69.1 67.8 69.9 75.8 82.4 86.2 86.9 80.0 161.1

80 67.7 69.7 66.7 70.6 71.5 70.5 69.7 72.6 78.9 84.5 89.1 88.1 81.7 163.2

100 68.5 71.0 68.8 71.4 72.4 71.7 71.4 73.4 80.1 86.2 90.8 88.7 83.0 164.5

125 70.4 70.8 69.4 72.8 73.5 72.5 72.5 75.3 81.2 85.7 90.0 86.3 82.6 163.7

160 72.4 73.0 69.9 73.8 75.8 73.8 73.8 76.3 82.4 85.1 89.5 85.5 81.9 163.4

200 74.7 77.4 77.4 76.8 76.6 74.7 74.1 77.1 82.9 85.2 87.4 84.0 80.3 162.7

250 80.2 80.3 78.0 78.5 80.3 76.7 75.4 77.3 82.2 85.3 85.8 81.8 78.7 162.6

315 79.5 81.4 78.7 80.4 81.2 78.4 75.7 78.0 83.3 84.0 83.3 79.0 77.4 162.2

400 76.9 79.3 77.8 80.5 80.6 79.1 78.4 78.7 83.4 84.1 81.7 77.8 75.4 162.0

500 76.0 79.0 77.1 79.6 78.2 77.2 78.1 80.6 83.0 81.6 80.1 75.4 73.6 161.3

600 77.4 78.5 76.5 77.7 79.2 77.6 76.0 78.8 82.1 80.0 76.9 72.1 69.7 161.1

750 75.2 78.6 79.1 81.7 82.5 79.9 78.2 78.1 80.2 76.7 73.1 69.1 64.6 162.4

1600 73.4 76.7 76.6 80.5 79.5 78.9 77.0 77.4 78.9 74.5 70.7 67.3 60.9 161.9

2000 69.2 72.5 73.2 76.0 76.5 75.7 75.5 76.0 75.9 71.9 67.0 64.2 55.4 160.6

2500 63.6 68.4 69.2 72.5 73.0 72.7 71.5 72.3 72.8 67.5 62.9 57.6 47.9 159.4

3150 56.6 62.6 63.5 67.0 69.0 68.3 67.1 67.5 67.3 61.9 56.3 49.4 36.2 158.5

4000 48.3 54.7 57.6 60.6 61.6 61.0 60.0 60.9 59.9 53.5 47.5 37.7 18.0 158.2

5000 33.4 42.6 45.4 50.7 52.7 52.5 51.2 51.4 49.5 40.3 32.4 19.1 157.7

6300 10.0 23.3 29.1 34.2 37.5 37.2 35.3 34.6 32.7 22.0 10.5 156.9

8000 8.3 13.7 14.4 11.8 9.7 7.2 157.0 156.4

10000 12500 16000

20000 25000 31500 40000 50000 63000 80000

GASPL 87.7 89.6 88.0 90.2 90.8 88.9 87.8 89.5 93.6 95.3 97.9 95.5 90.8 175.1

PWL 93.5 96.4 95.7 98.8 98.9 97.7 96.5 97.6 100.0 99.6 99.5 96.2 91.7

PWL 94.0 96.4 96.4 98.9 98.9 97.7 96.5 97.6 100.0 99.6 99.5 96.2 91.7

DBA 84.6 87.0 86.1 88.5 89.0 87.2 85.8 87.1 89.9 88.4 86.9 83.1 79.9

MODEL AREA = 131.5 SQ CM (20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICLE = ADH707 TEST DATE = 03-16-82
IAPLHA = SB59 LEGA / = NO
WIND DIR = DEG WIND VEL = MPH
LOCAT = C41 ANECH CH CONFIO = 2
TAMB F = 69.00 PAMB HG = 29.25
RELHUM = 76.6 PCT
FLTVEL = 400. FPS
MODEL = AX
MIKE HT = NBFR

FNIN1 = LBS XNLR = RPM XNHR = RPM V8 = 1724.6 FPS AE8 = 20.4 SQ IN
FNFRAMB = LBS XNLR = RPM XNHR = RPM V8 = 1724.6 FPS AE8 = 20.4 SQ IN
RPNMT = 8 ER-1212 TAPE = X12121 TEST PT NO = 1212 NC = AE039 CORR FAN SPEED = RPM

ORIGINAL PAGE 15
OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1213 X1213C
BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.
PWL

50 81.4 80.7 82.0 81.8 82.4 79.7 81.6 81.8 83.0 89.7 96.1 97.0 129.9
63 83.0 84.5 89.8 87.8 88.4 85.8 90.9 87.6 88.5 91.1 90.7 97.9 132.8
80 86.5 90.3 84.1 87.6 88.0 88.9 90.3 89.4 91.0 94.7 96.6 131.8
100 85.3 89.1 83.6 87.9 88.5 87.5 91.2 91.4 90.2 94.1 96.5 100.2 133.8
125 83.9 84.9 88.4 89.0 88.9 88.0 88.9 90.7 91.0 98.9 102.3 104.5 136.6
160 83.8 81.3 84.8 85.4 86.7 86.1 87.0 87.4 89.6 91.9 98.8 103.2 137.7
200 83.3 86.3 84.6 87.4 88.0 87.6 88.5 92.9 94.6 95.1 100.8 106.7 140.4
250 83.5 90.6 86.3 87.9 88.7 90.3 92.2 94.4 95.6 99.4 106.3 111.2 144.2
315 85.1 87.9 85.6 90.4 92.3 91.1 91.5 94.4 97.6 100.9 107.8 112.3 146.0
400 85.6 89.4 87.4 89.7 90.8 90.1 91.8 95.4 98.9 104.9 111.3 115.0 148.0
500 87.7 89.2 86.5 89.8 91.4 92.0 92.4 95.3 99.8 106.3 113.2 116.4 149.1
630 88.8 91.1 88.9 92.7 93.2 93.1 93.2 97.2 101.1 108.9 115.6 117.7 150.8
800 93.2 92.0 91.5 94.5 95.1 94.5 95.1 98.0 102.8 110.1 116.5 118.1 151.6
1000 99.7 101.0 97.8 100.8 99.1 96.5 96.4 100.1 104.3 110.1 117.2 118.9 152.4
1250 97.2 100.3 97.8 103.2 101.2 102.3 101.6 105.5 110.6 117.0 118.4 119.2 152.5
1600 101.5 99.0 96.3 98.9 98.6 99.6 102.7 105.8 109.4 117.0 118.4 119.2 152.1
2000 103.2 103.1 99.2 100.9 98.6 99.0 101.9 106.0 110.0 116.0 117.8 118.4 151.5
2500 100.9 101.2 99.2 101.8 99.9 98.6 102.5 106.1 109.4 114.9 116.5 117.8 150.4
3150 100.2 101.3 98.8 101.1 101.4 99.7 99.9 102.3 106.5 113.5 115.2 116.6 149.6
4000 99.4 100.2 97.5 99.8 100.3 99.8 99.9 103.5 105.9 108.3 111.8 113.4 148.5
5000 99.6 100.4 97.5 99.2 98.9 98.9 99.8 102.1 105.6 106.4 110.5 111.6 147.3
6300 97.3 101.0 98.4 100.6 99.0 99.1 102.7 105.6 109.7 110.7 110.7 110.7 147.0
8000 97.1 98.2 97.3 100.7 99.5 98.4 101.3 104.7 104.5 108.3 108.1 107.2 146.1
10000 95.1 97.3 96.1 99.4 101.6 99.4 101.1 103.7 103.8 106.5 107.5 104.8 145.8
12500 93.1 94.8 93.8 96.6 98.9 98.4 99.8 101.4 101.1 104.3 105.6 102.7 144.6
16000 90.3 92.1 91.3 94.9 96.8 97.1 98.9 100.7 98.3 102.5 103.1 99.9 144.1
20000 86.7 89.3 87.9 91.5 94.1 94.4 97.0 97.8 96.4 99.8 100.8 96.4 143.2
25000 83.4 85.2 84.9 88.3 90.7 91.3 93.7 94.2 92.8 96.5 98.0 93.3 142.4
31500 79.1 82.2 81.0 84.2 86.7 87.6 89.7 90.8 89.1 94.5 94.9 89.2 142.3
40000 74.9 77.6 77.2 79.9 83.1 83.5 86.7 87.7 87.8 93.0 92.8 85.6 143.6
50000 69.9 72.3 71.7 75.0 78.5 79.0 78.7 81.5 84.1 83.3 90.7 90.4 144.8
63000 65.0 68.5 66.6 70.2 74.0 74.2 73.9 76.6 79.8 79.8 87.8 86.4 146.9
80000 62.5 65.7 63.6 66.2 68.3 68.9 68.3 72.0 76.5 80.1 85.2 84.2 150.8

QASPL 110.7 111.5 109.0 111.6 112.1 111.2 111.1 113.7 117.0 120.3 126.3 128.2 127.3 162.9
PNLT 123.8 124.3 124.7 123.5 128.6 126.7 129.9 132.5 138.0 139.8 138.3
DBA 111.1 111.7 109.0 111.4 111.8 110.6 110.5 113.3 116.8 120.3 126.3 128.0 126.6

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH699 TEST DATE = 03-16-82 LOCAT = C41 ANECH CH CONFID = 2 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.25 RELHUM = 76.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR

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FNINI = LBS XNL = RPM XNH = RPM V8 = 1723.1 FPS AEB = 20.4 SQ IN
FNAMB = LBS XNLR = RPM XNHR = RPM V18 = 1723.1 FPS AE18 = 0. SQ IN
RUNPT = 82F-ZER-1213 TAPE = X1213C TEST PT NO = 1213 NC = AE039 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 8ZF-ZER-1213 X1213F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 81.4 80.7 82.0 81.8 82.4 79.7 81.6 81.8 83.0 89.3 89.7 96.1 97.0 129.9

63 83.0 84.5 89.8 87.8 88.4 85.8 90.9 87.6 88.5 91.1 90.7 97.9 97.8 132.8

80 86.5 90.3 84.1 87.6 87.8 88.0 88.9 88.9 88.9 91.2 91.4 90.2 94.1 98.5 100.2 133.8

100 85.3 86.1 83.6 87.9 88.5 87.9 87.5 91.2 91.4 90.2 94.1 98.5 100.2 133.8

125 83.9 84.9 84.9 86.4 89.0 88.9 88.0 88.9 90.7 91.0 98.9 102.3 104.5 136.6

160 83.8 81.3 84.8 85.4 86.7 86.1 87.0 86.4 89.6 91.9 98.8 103.2 107.1 137.7

200 83.3 86.3 84.6 87.4 88.0 87.6 88.5 92.9 94.6 95.1 100.8 106.7 109.4 140.4

250 83.5 90.6 86.3 87.9 88.7 90.3 92.2 94.4 95.6 99.4 106.3 111.2 112.1 144.2

315 85.1 87.9 85.6 90.4 92.3 91.1 91.5 94.4 97.6 100.9 107.8 112.3 114.9 146.0

400 85.6 89.4 87.4 89.7 90.8 90.1 91.8 95.4 98.9 104.9 111.3 115.0 115.4 148.0

500 87.7 89.2 86.5 89.8 91.4 92.0 92.4 95.3 99.8 106.3 113.2 116.4 115.3 149.1

630 88.8 91.1 88.9 92.7 93.2 93.1 93.2 97.2 101.1 108.9 115.6 117.7 116.2 150.8

800 93.2 92.0 91.5 94.5 95.1 96.0 96.4 100.1 104.3 110.1 117.2 118.9 117.8 152.4

1000 99.7 101.0 97.8 100.8 99.1 96.5 96.4 100.1 104.3 110.1 117.2 118.9 117.8 152.4

1250 97.2 100.3 97.8 101.6 102.3 101.2 101.6 105.5 110.6 117.0 118.7 118.2 118.2 152.5

1500 101.5 99.0 96.3 98.3 98.9 98.6 99.6 102.7 105.8 109.4 117.0 118.4 117.4 152.1

2000 103.2 103.1 99.2 100.9 100.2 98.6 99.0 102.5 106.0 110.0 116.0 117.6 115.4 151.5

2500 100.9 101.2 99.2 101.2 101.8 99.9 98.6 102.5 106.1 109.4 114.9 116.5 113.5 150.4

3150 100.2 101.3 98.8 101.1 101.4 99.7 99.9 102.3 106.7 108.5 113.5 115.2 113.2 149.6

4000 99.4 100.2 97.5 99.8 100.3 99.8 99.9 103.5 108.3 111.8 113.4 111.4 109.6 147.3

5000 99.6 100.4 97.5 99.2 98.9 98.9 99.8 102.1 105.6 106.4 110.5 111.6 109.6 147.3

6300 99.3 101.0 98.4 100.6 100.1 99.0 99.1 102.7 105.7 105.6 109.7 110.7 107.7 147.0

8000 97.1 98.2 97.3 100.7 100.9 99.5 98.4 101.3 104.7 104.5 108.3 108.1 107.2 146.1

10000 95.1 96.4 96.1 99.4 100.6 99.4 99.4 101.1 103.7 103.8 106.5 107.5 104.8 145.8

12500 93.1 94.8 93.8 98.9 99.1 98.4 99.6 101.4 101.1 104.3 105.6 102.7 102.7 144.6

16000 90.3 92.1 91.3 94.9 96.8 96.5 97.1 98.9 100.7 98.3 102.5 103.1 99.9 144.1

20000 86.7 89.3 87.9 91.5 94.1 94.4 93.7 97.8 99.8 99.8 99.8 99.8 99.8 143.2

25000 83.4 85.2 84.9 88.3 90.7 91.3 91.7 94.2 96.5 96.5 96.5 96.5 96.5 142.4

31500 79.1 82.2 81.0 84.2 86.7 87.1 87.6 89.7 90.8 90.1 94.5 94.9 89.2 142.3

40000 74.9 77.6 77.2 79.9 83.1 83.5 83.8 86.7 87.7 87.8 93.0 92.8 85.6 143.6

50000 69.9 72.3 71.7 75.0 78.5 79.0 78.7 81.5 84.1 83.3 90.7 90.4 83.6 144.8

63000 65.0 68.5 66.6 70.2 74.0 74.2 73.9 76.6 79.8 79.8 87.8 88.4 78.9 146.9

80000 62.5 65.7 63.6 66.2 68.3 68.9 68.3 72.0 76.5 80.1 85.2 84.2 80.0 150.8

OASPL 110.7 111.5 109.0 111.6 112.1 111.2 111.1 113.7 117.0 120.3 126.3 128.2 127.3 162.9

PNL 123.3 124.3 121.9 124.3 124.7 123.5 123.6 126.7 129.9 132.5 138.0 139.8 138.3

PMLT 124.8 125.9 121.9 124.3 124.7 125.1 124.7 126.7 129.9 132.5 138.0 139.8 138.3

DBA 183.5 186.7 184.7 187.5 190.1 190.6 190.1 193.5 197.6 200.6 206.1 205.4 200.4

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH699 TEST DATE = 03-16-82
IAPLHA = SB59 IEGA = NO
WIND DIR = DEG WIND VEL = MPH
LOCAT = C41 ANECH CH CONFIG = 2
PWL AREA = FULL SPHERE TAMB F = 69.00
EXT DIST = 40.0 FT
EXT CNFID = ARC
MIKE HT = 29.25
RELHUM = 76.6 PCT
FLVEL = 0. FPS
NBFR =

FNINI = LBS XNL RPM XNHR =
FNRAMB = LBS XNL RPM XNHR =
V8 RPM V8 = 1723.1 FPS AE6 AE6 = 20.4 SQ IN
AE18 = 0. SQ IN

RUNPT = ZER-1213 TAPE = X1213F TEST PT NO = 1213 NC = AE039 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1213 X12131

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 64.5 69.8 68.9 71.9 73.4 72.9 74.4 77.7 80.4 85.4 90.3 91.7 88.8 166.4

63 66.6 69.7 72.0 74.0 75.0 77.5 81.3 86.8 92.1 93.1 88.6 167.5

80 67.7 71.5 70.3 74.8 75.9 79.3 84.8 89.3 94.4 89.4 169.1

100 72.0 72.3 72.9 76.7 77.7 77.2 80.2 84.2 90.4 95.2 94.7 170.0

125 78.4 81.2 79.1 82.9 81.6 79.1 78.9 82.1 85.6 90.3 95.9 170.7

160 75.7 80.3 79.0 83.5 85.5 84.8 83.5 86.7 90.7 95.4 94.8 170.9

200 79.7 78.9 77.3 80.1 81.1 80.9 81.8 84.5 86.8 89.3 95.2 170.5

250 81.0 82.7 80.0 82.4 82.2 80.7 81.1 83.4 86.8 89.6 93.9 169.8

315 78.4 80.4 79.7 82.5 83.6 81.8 80.4 83.8 86.6 88.6 92.4 168.8

400 77.2 80.1 78.9 82.1 82.9 81.3 83.3 86.8 87.3 89.3 90.5 168.0

500 75.9 78.7 77.3 80.4 81.5 81.1 84.2 85.7 86.8 88.3 88.9 166.8

630 75.6 78.5 76.9 79.6 79.8 80.7 82.5 85.0 84.5 86.5 84.4 165.6

800 74.8 78.7 77.6 80.8 80.7 79.9 82.9 84.9 83.3 85.2 82.8 165.4

1000 72.2 75.6 76.2 80.6 81.4 80.2 78.9 81.2 83.7 81.9 83.4 164.5

1250 69.7 74.4 74.8 79.1 82.0 80.9 79.7 80.8 82.4 80.8 81.1 164.2

1600 66.8 71.3 72.1 76.0 79.0 79.4 78.5 79.3 79.7 77.5 78.0 163.0

2000 63.0 68.0 69.2 74.1 76.7 76.7 73.8 78.1 78.6 74.2 75.2 162.4

2500 57.6 64.0 65.0 70.0 73.4 73.7 73.8 75.5 74.9 71.1 70.7 161.6

3150 51.0 57.4 60.1 65.3 68.7 69.6 69.7 70.7 69.3 65.0 64.0 160.8

4000 40.4 49.7 52.4 57.9 61.7 62.5 63.4 62.1 57.5 55.8 45.9 160.6

5000 26.5 37.5 42.3 48.2 53.1 54.0 53.8 55.0 52.8 47.7 44.5 162.0

6300 3.6 18.0 24.8 32.5 38.4 39.7 38.6 39.0 37.2 29.0 24.5 163.1

8000 8.5 15.8 17.1 15.7 14.9 11.4 0.7

10000 165.2

12500 165.3

15000 163.1

16000 160.6

20000 162.4

25000 161.6

31500 164.2

40000 163.0

50000 165.6

63000 164.5

80000 169.1

QASPL 87.9 90.3 89.0 92.4 93.4 92.5 92.2 94.4 97.0 99.7 104.3 103.7 98.9 181.0

PNL 92.4 95.3 94.5 98.1 100.0 99.8 99.6 101.3 102.9 103.5 107.1 105.6 99.6

PFLT 93.2 96.1 95.0 98.1 100.7 100.6 100.1 101.3 103.4 104.1 107.1 106.8 99.6

DBA 82.2 85.3 84.6 88.2 89.6 89.0 88.5 90.5 92.4 92.2 94.9 93.4 86.9

MODEL AREA = 131.5 SQ CM (20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

NASA SHOCK CELL/CIRCULAR C-D NO2/AX/SC-2/NAS3-22514

VEHICL = ADH6999 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS

IAPLHA = SB59 IEQA, = NO PWL AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.25 RELHUM = 76.6 PCT

WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 1723.1 FPS AE8 = 20.4 SQ IN

FNRAMB = LBS XNLR = RPM V18 = FPS AE18 = 0. SQ IN

RUNPT = 82F-ZER-1213 TAPE = X12131

TEST PT NO = 1213

NC = AE039

CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-1214
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160

PWL

84.4 82.7 82.0 81.8 83.1 81.0 82.9 82.3 83.5 81.6 89.9 90.4 92.8 127.3

63 84.7 88.3 89.2 87.6 89.3 85.1 89.5 91.9 93.8 130.9

80 85.8 89.3 86.6 86.7 86.8 86.7 88.1 90.6 86.9 90.0 92.5 95.1 130.7

100 84.1 87.6 82.1 85.7 86.7 86.1 86.5 89.2 89.4 91.6 96.8 98.4 131.9

125 82.4 83.4 82.4 86.2 87.3 86.9 86.0 87.2 88.4 91.6 99.3 102.0 133.8

150 79.8 76.6 81.8 82.6 83.0 82.8 84.1 86.3 88.4 93.5 99.5 104.1 134.4

200 61.3 61.1 61.1 62.9 63.7 63.6 65.0 68.1 71.3 76.8 82.7 86.4 136.9

250 80.0 83.3 79.6 83.6 84.0 84.8 86.5 89.1 90.8 94.6 101.3 107.6 139.3

300 80.1 81.6 80.4 83.9 85.5 84.9 86.0 88.7 92.6 96.7 103.3 108.0 141.0

400 80.6 82.6 80.6 84.7 85.3 85.1 86.0 88.9 93.9 99.4 105.8 109.5 142.1

500 81.4 83.0 81.0 85.0 86.1 86.5 86.4 90.5 94.8 101.6 108.7 110.6 143.3

600 82.6 84.3 82.6 86.2 87.0 86.9 88.0 91.9 95.9 103.9 110.1 111.0 144.1

800 85.2 85.0 84.3 87.5 88.4 88.0 89.6 93.5 98.0 105.3 112.0 110.1 144.9

1000 86.0 86.5 86.0 89.3 90.1 89.5 90.6 95.1 99.5 106.3 112.5 109.4 145.2

1250 91.2 93.3 90.3 92.8 92.2 90.8 91.7 95.8 100.5 106.1 112.0 107.4 144.7

1500 95.7 95.3 92.8 94.8 92.9 91.8 92.6 95.9 101.1 104.9 110.3 106.7 143.7

2000 95.9 96.3 94.2 96.6 96.4 93.8 93.0 96.4 101.5 105.0 108.3 105.3 143.0

2500 93.6 94.7 93.2 96.0 96.3 94.9 93.6 97.0 100.9 104.9 106.7 102.0 141.9

3000 92.0 92.3 91.6 94.3 95.7 93.6 93.6 95.6 97.6 101.7 103.5 104.8 141.1

4000 93.2 93.2 90.7 92.8 93.6 93.6 94.4 99.3 101.1 103.3 102.6 97.6 140.3

5000 96.6 96.7 93.7 94.2 92.7 92.1 93.5 97.3 100.8 101.2 101.3 96.6 139.7

6000 97.3 98.7 96.6 97.1 96.1 94.3 93.1 97.0 101.0 101.1 100.2 95.5 140.5

8000 94.6 96.0 98.7 98.0 98.9 98.4 98.9 99.5 100.0 99.3 98.5 94.1 140.3

10000 92.4 94.1 93.6 97.4 98.6 97.4 95.9 96.6 98.4 99.0 97.0 92.7 140.3

12500 90.6 92.0 91.1 93.6 95.6 96.4 95.2 95.6 97.9 96.3 94.8 91.4 139.3

16000 87.3 89.1 88.1 91.7 93.3 92.8 93.3 95.2 96.5 93.8 92.8 88.6 138.6

20000 83.9 86.1 84.9 88.3 90.3 90.6 90.2 92.8 94.1 91.2 89.3 86.3 137.7

25000 80.4 82.2 81.9 84.1 87.4 87.8 83.6 85.4 86.5 84.1 82.5 80.2 135.9

30000 75.3 78.5 77.0 80.2 83.2 83.1 83.6 85.4 86.5 80.5 79.0 76.0 135.9

40000 73.3 75.6 73.2 75.6 79.1 79.0 79.3 81.9 82.5 80.5 79.0 74.0 134.9

50000 64.9 67.8 67.0 69.7 74.0 74.0 73.9 75.7 77.4 75.0 74.0 71.4 134.9

60000 58.8 63.7 57.1 60.0 62.5 62.4 61.8 64.0 66.5 64.4 62.7 60.9 136.3

80000 58.8 63.7 57.1 60.0 62.5 62.4 61.8 64.0 66.5 64.4 62.7 60.9 136.3

QASPL 105.4 106.3 104.6 106.9 107.2 106.2 106.0 108.7 112.2 115.6 120.3 119.3 116.2 155.6

PWL 118.3 119.2 117.3 119.0 119.3 118.6 118.7 121.9 125.2 127.8 130.7 128.5 124.3

DBA 105.4 106.0 104.1 106.3 106.2 104.9 104.7 108.0 112.0 115.6 120.0 117.7 111.7

NASA SHOCK CELL/CIRCULAR C-D NO2/AX/SC-2/NAS3-22514

VEHICLE = ADH706 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVL = 400. FPS
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE EXT DIST = 40.0 FT TAMB F = 69.00 MIKE HT = 29.25 RELHUM = 76.6 PCT
WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC NBFR =

FNINI = LBS XNL RPM XNH RPM XNHR = RPM V8 = 1726.4 FPS AEB = 20.4 SQ IN
FNAMB = LBS XNLR = RPM XNHR = RPM V18 = 1726.4 FPS AEB = 20.4 SQ IN

RUNPT = 82F-400-1214 TAPE = X1214C TEST PT NO = 1214 NC = AE039 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-1214 X1214F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.
PWL

80
100
125
160

200
250 86.2 88.5 83.6 86.4 85.3 84.8 84.6 85.5 89.2 92.3 98.4 103.6 106.3 137.4
315 86.2 88.5 83.6 86.3 87.3 85.1 84.7 85.9 90.6 95.4 101.4 105.8 107.0 139.1
400 87.8 88.0 85.3 87.3 87.0 85.4 84.7 86.2 91.8 97.8 104.7 107.8 106.6 140.7
500 87.7 88.7 85.4 88.0 88.8 85.1 87.9 94.3 101.7 107.8 110.4 107.0 143.1
600 89.1 89.4 86.0 88.5 88.9 87.3 87.3 90.2 97.2 104.3 111.2 112.0 108.7 145.4
800 89.6 89.4 87.4 89.5 89.1 89.1 92.1 99.2 105.9 112.7 112.8 110.1 146.6
1000 91.7 90.6 88.8 90.8 91.7 90.2 90.3 93.7 100.4 105.8 112.3 110.9 110.3 146.1
1250 94.0 92.8 89.4 91.8 93.9 91.6 91.5 94.7 101.1 104.8 110.7 110.3 109.1 145.1
1500 97.0 98.0 94.0 95.5 94.9 92.8 92.7 95.0 101.8 105.2 109.0 109.2 108.3 144.5
2000 102.5 100.9 97.1 97.9 98.6 95.1 93.3 96.7 103.0 104.7 106.6 105.5 107.2 144.4
2500 101.6 101.1 98.1 99.6 99.0 96.5 94.3 96.7 103.0 104.7 106.6 105.5 107.2 144.1
3150 99.7 100.2 97.9 99.7 98.9 97.5 96.8 97.8 103.1 105.2 105.1 103.5 106.2 143.6
4000 99.6 98.9 97.1 98.7 96.9 96.1 96.2 100.1 103.2 103.4 104.1 101.7 104.8 142.9
5000 98.5 98.2 95.3 96.6 96.2 95.1 95.8 98.6 103.5 103.4 103.1 101.7 104.8 142.5
6300 103.1 102.4 98.5 98.2 99.6 97.3 95.4 98.3 102.8 102.0 101.9 100.6 103.4 143.2
8000 102.9 103.7 100.9 100.8 102.7 99.0 96.3 97.0 101.9 102.2 100.7 99.4 102.7 144.2
10000 101.7 102.4 101.0 103.4 102.6 100.4 98.3 98.3 101.7 99.8 98.5 97.9 101.0 144.7
12500 99.2 100.2 98.8 101.6 99.7 99.4 97.6 97.4 100.9 98.1 97.5 96.4 99.9 143.8
15000 97.0 97.6 95.8 97.3 97.3 95.8 95.8 97.1 98.9 95.9 94.7 94.9 97.6 142.6
20000 93.2 94.3 92.4 95.0 94.4 93.6 92.6 94.6 96.1 93.2 92.2 93.2 94.7 141.6
25000 89.3 90.7 88.6 91.0 92.0 90.8 90.1 91.3 92.5 90.0 89.1 90.2 91.1 140.7
31500 87.8 88.3 86.6 87.1 87.8 86.1 86.0 87.2 89.1 87.0 86.1 86.6 87.6 140.4
40000 81.8 83.7 80.8 82.4 83.7 82.0 81.7 83.5 84.4 81.5 82.3 82.8 83.8 139.8
50000 77.0 78.1 76.6 77.5 78.6 77.0 76.3 77.3 79.9 77.4 77.3 78.3 78.5 139.2
63000 70.0 71.7 69.5 70.6 72.6 71.5 70.5 72.2 75.6 73.3 72.3 73.9 73.6 139.1
80000 64.2 66.9 62.3 63.6 66.8 65.4 64.1 65.4 65.8 63.5 62.5 64.1 63.8 138.5

DBA 186.4 188.7 185.1 186.3 188.9 187.5 186.4 187.7 189.4 187.1 186.2 187.8 187.5
PNLT 124.3 122.9 120.1 121.7 121.4 119.6 118.7 121.4 125.8 128.0 130.0 129.6 130.5
GASPL 111.5 111.6 109.0 110.5 110.4 108.4 107.2 109.0 113.7 115.9 120.1 120.3 119.6 157.2

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH706 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 69.00 MIKE HT = 29.25 RELHUM = 76.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC NBFR =
FNINI = LBS XNL RPM XNHR = RPM V8 = 1726.4 FPS AE8 = 20.4 SQ IN
FNRAMB = LBS XNL RPM XNHR = RPM V8 = 1726.4 FPS AE8 = 20.4 SQ IN
RUNPT = 82F-400-1214 TAPE = X1214F TEST PT NO = 1214 NC = AE039 CORR FAN SPEED = RPM

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| IDENTIFICATION - 82F-400-1214 X12141 | | ANGLES MEASURED FROM INLET, DEGREES | |
|--------------------------------------|--|-------------------------------------|-------|
| FREQ | 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. | 50 | 66.7 |
| 50 | 66.5 | 60 | 66.9 |
| 60 | 66.9 | 70 | 69.6 |
| 70 | 69.7 | 80 | 68.2 |
| 80 | 67.4 | 90 | 68.4 |
| 90 | 67.4 | 100 | 73.3 |
| 100 | 67.4 | 110 | 73.3 |
| 110 | 68.4 | 120 | 73.3 |
| 120 | 73.3 | 130 | 78.3 |
| 130 | 78.3 | 140 | 83.6 |
| 140 | 83.6 | 150 | 84.6 |
| 150 | 84.6 | 160 | 80.0 |
| 160 | 80.0 | | 159.0 |
| 50 | 66.6 | | 87.1 |
| 60 | 66.6 | | 80.3 |
| 70 | 66.9 | | 82.0 |
| 80 | 67.0 | | 84.7 |
| 90 | 67.0 | | 90.1 |
| 100 | 67.0 | | 86.3 |
| 110 | 67.0 | | 86.3 |
| 120 | 67.0 | | 89.3 |
| 130 | 67.0 | | 83.2 |
| 140 | 67.0 | | 83.1 |
| 150 | 67.0 | | 164.4 |
| 160 | 67.0 | | 163.5 |
| 50 | 66.6 | | 163.5 |
| 60 | 66.6 | | 163.5 |
| 70 | 66.9 | | 163.5 |
| 80 | 67.0 | | 163.5 |
| 90 | 67.0 | | 163.5 |
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| 80 | 67.0 | | 163.5 |
| 90 | 67.0 | | 163.5 |
| 100 | 67.0</ | | |

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1215 X1215C

BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 60.7 80.5 82.0 81.3 82.4 81.0 82.1 82.0 88.2 88.1 97.4 98.1 95.5 132.0

63 64.2 85.0 88.0 88.3 88.7 86.0 87.2 86.0 89.2 89.0 98.7 98.8 95.2 134.3

80 66.0 90.1 83.3 87.6 87.2 87.8 86.6 87.2 86.6 91.1 88.9 94.0 95.2 95.6 132.1

100 65.6 89.3 84.1 88.2 89.0 88.4 88.0 89.7 89.0 92.1 90.4 94.6 99.0 99.9 134.1

125 64.6 85.6 85.7 89.4 90.0 89.7 89.0 89.7 89.4 91.4 91.5 99.4 103.0 105.0 137.2

160 63.6 80.6 84.6 85.4 86.3 86.3 87.2 86.3 87.9 90.6 92.2 99.0 103.0 106.9 137.6

200 63.0 80.6 84.6 85.4 86.3 86.3 87.2 86.3 87.9 90.6 92.2 99.0 103.0 106.9 140.6

250 63.8 80.8 86.1 88.1 89.2 90.6 92.2 94.6 96.3 99.9 106.8 111.0 112.6 144.4

315 85.1 88.4 85.6 90.7 92.3 91.6 91.5 94.7 98.1 101.2 108.3 112.0 114.9 146.0

400 85.8 88.9 87.4 90.4 91.0 90.1 92.3 95.2 99.1 105.2 111.3 115.5 115.7 148.3

500 87.7 90.0 87.3 90.3 91.9 92.0 92.6 95.5 100.0 106.8 114.2 116.9 116.0 149.8

630 89.1 91.6 89.6 92.4 93.0 93.1 93.5 96.9 101.4 109.7 115.6 117.7 116.4 150.9

800 93.2 92.0 91.8 95.0 95.6 94.5 95.4 98.8 103.0 110.8 117.2 118.4 117.5 152.0

1000 100.5 101.2 97.8 100.6 99.1 96.8 97.1 100.1 104.3 111.3 117.5 119.4 118.1 152.8

1250 98.2 100.3 98.5 101.6 103.4 102.3 101.2 101.6 105.5 111.1 117.7 119.2 118.4 153.0

1600 103.2 101.0 97.6 99.8 99.6 99.6 102.7 106.3 109.4 118.0 117.9 117.9 115.6 152.8

2000 104.7 104.3 100.7 102.4 101.9 99.3 99.3 102.6 106.7 109.7 117.0 118.1 115.6 152.0

2500 102.4 102.7 100.7 103.0 103.1 100.4 99.6 102.5 105.9 109.9 115.7 116.7 114.0 151.0

3150 101.7 103.0 100.6 102.8 102.7 101.5 101.5 102.8 106.7 109.0 114.5 113.1 111.6 149.0

4000 100.9 101.0 98.5 101.5 101.3 101.1 101.2 104.3 106.4 108.3 113.1 113.1 111.6 149.0

5000 100.4 101.2 98.5 100.7 100.9 100.1 100.5 103.1 106.3 106.7 111.8 112.6 109.1 148.1

6300 99.0 101.5 99.4 101.4 101.3 100.5 100.1 103.5 106.5 106.1 110.7 110.7 108.5 147.7

8000 97.4 98.2 97.5 101.2 101.7 100.0 99.4 102.0 105.7 104.8 108.8 108.8 106.9 146.7

10000 95.6 97.8 96.6 99.4 102.1 100.1 99.9 101.8 104.2 104.8 107.8 108.0 106.0 146.5

12500 93.6 95.3 94.3 97.6 99.1 99.4 98.7 100.3 102.9 101.6 105.8 106.6 104.2 145.5

16000 90.3 92.9 91.6 95.7 97.0 96.8 97.3 98.9 101.2 98.8 104.0 104.1 101.9 144.8

20000 87.2 89.6 88.4 92.0 95.1 94.8 94.7 97.0 98.3 97.2 101.0 101.5 98.7 144.0

25000 83.9 85.9 85.7 88.1 91.2 91.8 92.2 94.2 95.4 93.6 98.5 98.0 94.5 143.2

31500 79.6 82.7 81.5 85.0 87.5 87.6 88.6 90.2 91.3 90.8 96.0 95.7 90.2 143.1

40000 74.9 77.8 78.2 80.4 84.1 84.2 84.3 86.9 88.0 88.5 94.5 94.0 87.6 144.6

50000 69.6 72.8 72.8 75.5 79.0 80.0 79.7 81.7 84.6 84.3 92.2 91.6 83.8 145.9

63000 64.5 68.7 66.8 70.5 74.3 75.2 74.4 77.1 81.8 80.8 91.1 88.2 82.2 148.7

80000 63.0 66.0 66.8 69.0 72.6 72.2 72.2 77.5 79.9 88.2 83.7 79.5 152.2

GASPL 111.8 112.3 109.9 112.5 113.0 111.8 111.7 114.1 117.4 120.8 127.1 128.6 127.6 163.5

PMLT 126.0 127.2 123.1 125.6 127.0 124.5 124.5 127.2 130.2 132.9 138.8 140.1 138.6

DBA 112.4 112.7 110.1 112.6 112.6 111.3 111.2 113.8 117.2 120.7 127.0 128.3 126.9

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICLE = ADH700 TEST DATE = 03-16-82 LOCATION = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVL = 0. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE EXT DIST = 40.0 FT TAMB F = 69.00 PAMB HG = 29.25 RELHUM = 76.6 PCT
WIND DIR = DEG WIND VEL = MPH

FNIN1 = LBS XNL RPM XNH XNHR = RPM V8 = 1734.0 FPS AE8 = 20.4 SO IN
FNRAMB = LBS XNLR = RPM V18 = FPS AE18 = 0. SO IN

RUNPT = 82F-ZER-1215 TAPE = X1215C TEST PT NO = 1215 NC = AE039 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1215 X1215F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 80.7 | 80.5 | 82.0 | 81.3 | 82.4 | 81.0 | 82.1 | 82.0 | 88.2 | 88.1 | 97.4 | 98.1 | 95.5 | 132.0 |
| 63 | 84.2 | 85.0 | 88.0 | 88.0 | 87.2 | 86.0 | 90.9 | 87.6 | 92.0 | 98.7 | 98.8 | 98.7 | 134.3 | |
| 80 | 86.0 | 90.1 | 83.3 | 87.6 | 87.2 | 87.8 | 88.6 | 91.1 | 88.9 | 94.0 | 95.2 | 95.6 | 132.1 | |
| 100 | 85.6 | 89.3 | 84.1 | 88.2 | 89.0 | 88.4 | 88.0 | 91.2 | 92.1 | 90.4 | 94.6 | 99.0 | 134.1 | |
| 125 | 84.6 | 85.6 | 85.7 | 89.4 | 90.0 | 89.7 | 89.0 | 89.7 | 91.4 | 91.5 | 99.4 | 103.0 | 137.2 | |
| 160 | 83.8 | 80.6 | 84.6 | 85.4 | 87.2 | 86.3 | 87.2 | 87.9 | 90.6 | 92.2 | 99.0 | 103.0 | 137.6 | |
| 200 | 83.0 | 86.1 | 84.8 | 87.9 | 88.7 | 88.1 | 88.2 | 93.1 | 95.6 | 95.1 | 101.5 | 106.5 | 140.6 | |
| 250 | 83.8 | 90.8 | 86.1 | 89.2 | 90.6 | 92.2 | 94.6 | 96.3 | 99.9 | 106.8 | 111.0 | 112.6 | 144.4 | |
| 315 | 85.1 | 88.4 | 85.6 | 90.7 | 92.3 | 91.6 | 91.5 | 94.7 | 98.1 | 101.2 | 108.3 | 112.0 | 146.0 | |
| 400 | 85.8 | 88.9 | 87.4 | 90.4 | 91.0 | 90.1 | 92.3 | 95.2 | 99.1 | 105.2 | 111.3 | 115.5 | 148.3 | |
| 500 | 87.7 | 90.0 | 87.3 | 90.3 | 91.9 | 92.0 | 92.6 | 95.5 | 100.0 | 106.8 | 114.2 | 116.9 | 149.8 | |
| 630 | 89.1 | 91.6 | 89.6 | 92.4 | 93.0 | 93.1 | 93.5 | 96.9 | 101.4 | 109.7 | 117.7 | 116.4 | 150.9 | |
| 800 | 93.2 | 92.0 | 91.8 | 95.0 | 95.6 | 94.5 | 95.4 | 98.8 | 103.0 | 110.8 | 117.2 | 118.4 | 152.0 | |
| 1000 | 100.5 | 101.2 | 97.8 | 100.6 | 99.1 | 96.8 | 97.1 | 100.1 | 104.3 | 111.3 | 117.5 | 119.4 | 152.8 | |
| 1250 | 98.2 | 100.3 | 98.5 | 101.8 | 103.4 | 102.3 | 101.2 | 101.8 | 105.5 | 111.1 | 117.7 | 119.2 | 152.0 | |
| 1600 | 103.2 | 101.0 | 97.6 | 99.8 | 99.6 | 99.6 | 102.7 | 106.3 | 109.4 | 118.0 | 117.0 | 118.1 | 152.8 | |
| 2000 | 104.7 | 104.3 | 100.7 | 102.4 | 101.9 | 99.3 | 99.3 | 102.6 | 106.7 | 109.7 | 117.0 | 118.1 | 152.8 | |
| 2500 | 102.4 | 102.7 | 100.7 | 103.0 | 103.1 | 100.4 | 99.6 | 102.5 | 105.9 | 109.9 | 115.7 | 116.7 | 151.0 | |
| 3150 | 101.7 | 103.0 | 100.6 | 102.8 | 101.5 | 101.1 | 102.8 | 106.7 | 109.0 | 114.5 | 115.2 | 113.7 | 150.2 | |
| 4000 | 100.9 | 101.2 | 98.5 | 101.5 | 101.3 | 101.2 | 104.3 | 106.4 | 108.3 | 113.1 | 113.1 | 111.6 | 149.0 | |
| 5000 | 100.4 | 101.0 | 98.5 | 100.7 | 100.9 | 100.1 | 100.5 | 103.1 | 106.3 | 106.7 | 111.8 | 112.6 | 148.1 | |
| 6300 | 99.0 | 101.5 | 99.4 | 101.4 | 101.3 | 100.5 | 100.1 | 103.5 | 106.5 | 106.1 | 110.7 | 108.5 | 147.7 | |
| 8000 | 97.4 | 98.2 | 97.5 | 101.2 | 101.7 | 100.0 | 99.4 | 102.0 | 105.7 | 104.8 | 108.8 | 108.9 | 146.7 | |
| 10000 | 95.6 | 97.8 | 96.6 | 99.4 | 102.1 | 100.1 | 99.9 | 101.8 | 104.2 | 104.8 | 107.8 | 106.0 | 146.5 | |
| 12500 | 93.6 | 95.3 | 94.3 | 97.6 | 99.1 | 99.4 | 98.7 | 100.3 | 102.9 | 101.6 | 105.8 | 106.6 | 145.5 | |
| 16000 | 90.3 | 92.9 | 91.6 | 95.7 | 97.0 | 96.8 | 97.3 | 98.9 | 101.2 | 98.8 | 104.0 | 104.1 | 144.8 | |
| 20000 | 87.2 | 89.6 | 88.4 | 92.0 | 95.1 | 94.8 | 94.7 | 97.0 | 98.3 | 97.2 | 101.0 | 101.5 | 144.0 | |
| 25000 | 83.9 | 85.9 | 85.7 | 88.1 | 91.2 | 91.8 | 92.2 | 94.2 | 95.4 | 93.6 | 98.5 | 98.0 | 143.2 | |
| 31500 | 79.6 | 82.7 | 81.5 | 85.0 | 87.5 | 87.6 | 88.6 | 90.2 | 91.3 | 90.8 | 96.0 | 95.7 | 143.1 | |
| 40000 | 74.9 | 77.8 | 78.2 | 80.4 | 84.1 | 84.3 | 84.3 | 86.9 | 88.0 | 88.5 | 94.0 | 87.6 | 144.6 | |
| 50000 | 69.6 | 72.8 | 72.0 | 75.5 | 79.0 | 80.0 | 79.7 | 81.7 | 84.6 | 84.3 | 92.2 | 91.6 | 145.9 | |
| 63000 | 64.5 | 68.7 | 66.8 | 70.5 | 74.3 | 75.2 | 74.4 | 77.1 | 81.8 | 80.8 | 88.2 | 88.2 | 148.7 | |
| 80000 | 63.0 | 66.0 | 66.8 | 65.5 | 69.0 | 69.4 | 69.3 | 72.2 | 77.5 | 79.9 | 88.2 | 83.7 | 152.2 | |
| QASPL | 111.8 | 112.3 | 109.9 | 112.5 | 113.0 | 111.8 | 111.7 | 114.1 | 117.4 | 120.8 | 127.1 | 128.6 | 127.6 | 163.5 |
| PNL1 | 126.0 | 127.2 | 123.1 | 125.6 | 127.0 | 126.1 | 124.5 | 127.2 | 130.2 | 132.9 | 138.8 | 140.1 | 138.6 | |
| DBA | 183.9 | 187.0 | 187.4 | 187.1 | 190.7 | 191.3 | 191.0 | 193.8 | 198.7 | 200.5 | 209.1 | 205.0 | 200.4 | |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH700 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE EXT DIST = 40.0 FT TAMB F = 69.00 PAMB HG = 29.25 RELHUM = 76.6 PCT
WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR = 0. FPS

FNINI = LBS XNL RPM = XNH XNHR = RPM V6 = 1734.0 FPS AEB = 20.4 SQ IN V8 = 1734.0 FPS AE18 = 0. SQ IN
FNRAMB = LBS XNLR RPM = XNHR XNHR = RPM V6 = 1734.0 FPS AE18 = 0. SQ IN V8 = 1734.0 FPS AE18 = 0. SQ IN

RUNPT = ZER-1215 TAPE = X1215F TEST PT NO = 1215 NC = AE039 CORR FAN SPEED = RPM

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DATPROC - FL11AN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1215 X12151

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 64.8 69.3 68.9 72.7 73.7 72.9 74.9 77.4 80.7 85.7 90.3 92.2 89.1 166.7
63 66.6 70.4 68.8 72.5 74.5 74.8 75.3 77.8 81.5 87.3 93.1 93.6 89.4 168.2
80 67.9 72.0 71.1 74.6 75.6 75.9 76.1 79.1 82.8 90.1 94.4 94.4 89.6 169.2
100 72.0 72.3 73.2 77.2 78.2 77.2 77.9 80.9 84.4 91.2 96.0 94.9 90.6 170.4
125 79.1 81.5 79.1 82.6 81.6 79.4 79.6 82.1 85.6 91.6 96.1 95.8 90.9 171.1
160 76.7 80.3 79.7 83.8 85.8 84.8 83.5 83.8 86.7 91.2 96.2 95.3 90.9 171.4
200 81.5 80.9 78.6 81.6 82.1 80.9 81.8 84.5 87.3 89.3 96.2 94.7 89.9 171.2
250 82.5 83.9 81.5 83.9 84.0 81.5 81.3 84.2 87.5 89.4 94.9 93.5 87.0 170.4
315 79.9 81.2 84.3 84.8 82.3 81.4 83.8 86.3 89.1 93.1 91.5 84.5 169.3
400 78.7 81.9 80.7 83.8 84.1 83.1 82.6 83.8 86.8 87.8 91.5 89.3 83.2 168.6
500 77.4 79.4 78.3 82.2 82.5 82.4 82.4 84.9 86.2 86.8 86.7 80.2 167.4
630 76.4 79.3 77.9 81.1 81.8 81.2 81.4 83.5 85.8 84.7 87.8 85.4 76.6 166.5
800 74.5 79.2 78.6 81.5 82.0 81.4 80.7 83.6 85.7 83.8 86.2 82.8 74.8 166.1
1000 72.4 75.6 76.5 81.1 82.2 80.7 79.9 81.9 84.7 82.2 83.9 80.3 72.2 165.0
1250 70.2 74.9 75.3 79.1 82.5 80.7 80.2 81.6 82.9 81.8 82.3 78.6 69.8 164.9
1600 67.3 71.8 72.6 77.0 79.2 78.8 79.6 81.2 78.0 79.5 76.0 65.6 163.9
2000 63.0 68.7 69.5 74.9 76.9 76.9 78.1 79.1 74.7 76.7 71.8 60.3 163.2
2500 58.1 64.2 65.5 70.5 74.4 74.5 74.0 75.5 75.4 71.8 72.0 66.4 162.4
3150 51.5 58.1 60.8 65.0 69.2 70.1 70.2 71.2 70.6 65.8 66.0 57.9 161.6
4000 40.9 50.2 52.9 58.7 62.5 63.0 63.6 63.9 62.6 58.3 57.3 46.6 161.5
5000 26.5 37.7 43.3 48.7 54.1 54.8 54.3 55.2 53.1 48.4 46.0 31.3 163.0
6300 3.4 18.5 25.0 33.0 38.9 40.7 39.6 39.2 37.7 30.0 26.0 4.8 164.2
8000 8.7 16.1 18.1 16.2 15.4 13.4 1.7170.6
167.1
164.2ORIGINAL PAGE IS
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| | | | | | | | | | | | | | | |
|-------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| QASPL | 89.1 | 91.2 | 90.0 | 93.4 | 94.2 | 93.1 | 92.8 | 94.8 | 97.4 | 100.2 | 105.0 | 104.1 | 99.2 | 181.7 |
| PWL | 93.5 | 96.2 | 95.6 | 99.2 | 100.7 | 100.3 | 100.1 | 101.6 | 103.3 | 104.6 | 108.0 | 107.3 | 100.0 | |
| PWLT | 94.3 | 97.1 | 95.6 | 99.2 | 101.3 | 101.1 | 101.6 | 103.3 | 104.6 | 108.0 | 107.3 | 100.0 | | |
| DBA | 83.1 | 86.1 | 85.5 | 89.2 | 90.5 | 89.6 | 89.2 | 91.1 | 93.0 | 92.5 | 95.9 | 93.7 | 87.3 | |

MODEL AREA = 131.5 SQ CM (20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

NASA SHOCK CELL/CIRCULAR C-D NO2/AX/SC-2/NAS3-22514

| | | | | | | | | | | | |
|----------|----------------|--------------|------------|------------|----------------|-------------|------------|----------------|--------------|----------|--------------|
| VEHICL | = ADH700 | TEST DATE | = 03-16-82 | LOCAT | = C41 ANECH CH | CONFIG | = 2 | MODEL | = AX | FLVEL | = 0. FPS |
| IAPLHA | = SB59 | IEGA | = NO | PWL AREA | = FULL SPHERE | TAMB F | = 69.00 | PAMB HG | = 29.25 | RELHUM | = 76.6 PCT |
| WIND DIR | = | DEG WIND VEL | = | MPH | EXT DIST | = 2400.0 FT | EXT CONFIG | = SL | MIKE HT | = | NBFR |
| FNIN1 | = | LBS XNL | = | RPM | XNH | = | RPM | V8 | = 1734.0 FPS | AE8 | = 20.4 SQ IN |
| FNAMB | = | LBS XNLR | = | RPM | XNHR | = | RPM | V18 | = | FPS AE18 | = 0. SQ IN |
| RUNPT | = 82F-ZER-1215 | TAPE | = X12151 | TEST PT NO | = 1215 | NC | = AE039 | CORR FAN SPEED | = | RPM | |

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-1216 X1216C
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 84.9 82.7 81.7 83.8 81.4 82.5 84.9 82.8 84.5 80.6 91.4 90.4 95.8 128.5

63 83.7 85.3 89.0 90.3 87.7 84.5 91.9 86.1 88.8 84.1 91.2 91.9 94.8 131.2

80 86.3 89.6 87.9 87.2 87.8 86.0 89.4 86.1 89.4 87.2 91.6 96.8 99.2 132.2

100 84.1 87.6 81.9 86.2 87.0 86.9 86.0 89.4 89.4 87.2 91.6 96.8 99.2 132.2

125 82.6 83.4 82.7 86.9 88.0 87.7 86.3 86.9 88.2 88.2 96.1 100.0 102.5 134.4

160 79.5 78.6 82.1 83.4 83.7 83.1 84.0 84.9 87.1 89.2 96.0 100.0 104.2 134.8

200 81.0 81.3 80.6 80.1 80.1 80.1 80.1 80.1 80.1 80.1 80.1 80.1 80.1 80.1

250 80.0 80.1 80.1 80.1 80.1 80.1 80.1 80.1 80.1 80.1 80.1 80.1 80.1 80.1

315 80.1 81.6 80.9 84.7 86.3 85.6 86.5 89.2 93.1 96.7 103.3 108.3 109.4 141.3

400 81.3 82.6 80.9 85.4 86.0 85.9 86.5 89.2 93.9 99.4 106.6 110.3 108.4 142.7

500 81.9 83.5 81.0 85.5 86.9 87.2 87.4 90.8 94.8 101.6 108.7 111.4 106.0 143.6

630 83.3 84.8 82.6 86.9 88.0 88.4 88.2 92.7 96.6 104.7 110.6 111.7 103.7 144.7

800 85.7 85.2 84.5 88.5 89.1 89.2 89.9 93.3 95.6 101.3 105.4 111.0 106.4 145.1

1000 89.2 86.0 90.1 90.1 90.0 90.9 95.3 100.0 106.6 112.7 110.1 99.6 145.6

1250 93.7 95.3 90.8 93.6 92.9 92.0 92.2 95.8 100.8 106.4 112.0 107.9 99.7 144.9

1600 98.2 98.0 95.3 96.1 94.7 93.1 92.6 96.7 101.3 105.4 111.0 106.4 99.4 144.4

2000 98.4 98.6 98.5 98.4 98.7 95.6 93.8 97.7 101.4 105.4 106.4 102.2 97.5 142.7

2500 96.1 96.7 95.2 98.2 97.7 97.4 94.4 93.9 94.5 97.7 101.4 105.4 106.4 142.7

3150 93.2 94.5 93.3 96.3 97.7 97.2 97.4 98.3 102.2 104.0 105.5 101.4 96.4 142.0

4000 95.4 95.2 94.3 94.6 94.1 96.4 100.3 102.1 103.6 103.1 103.6 103.1 96.1 141.2

5000 97.9 98.2 95.2 96.7 97.4 98.9 97.1 95.5 93.8 98.0 102.2 102.2 95.7 141.4

6300 97.3 99.7 97.4 98.9 97.1 95.5 93.8 98.0 102.2 102.2 102.2 95.7 91.7 141.4

8000 94.9 96.5 95.8 99.4 99.2 97.0 94.4 96.8 100.7 99.3 94.1 90.9 140.9

10000 93.1 96.6 94.1 96.6 96.4 97.6 96.4 97.8 99.4 99.3 94.1 90.9 140.9

12500 91.6 92.3 92.1 94.3 96.6 95.2 95.2 96.3 97.9 96.6 95.1 91.9 139.7

16000 88.3 89.6 88.8 92.4 93.8 93.3 93.8 95.4 97.2 94.5 93.3 89.3 139.2

20000 84.7 87.6 85.4 88.5 90.8 90.8 90.7 93.0 95.1 91.9 90.3 86.5 138.3

25000 80.9 82.9 82.7 85.1 87.9 89.0 88.7 90.0 91.7 88.3 86.7 84.8 137.7

31500 76.8 79.0 78.0 81.2 83.5 85.1 83.8 86.2 87.0 84.8 83.0 81.2 136.7

40000 71.7 74.1 73.4 76.1 80.1 80.2 79.8 81.7 83.0 80.8 79.7 76.8 136.4

50000 66.1 68.5 67.7 71.7 74.2 76.2 76.7 78.4 78.4 74.8 74.7 72.1 135.8

63000 61.3 65.5 61.8 70.2 74.2 76.2 76.7 78.4 78.4 74.8 74.7 72.1 135.8

80000 59.0 64.7 64.7 67.8 70.8 70.2 68.5 69.5 69.5 69.5 69.5 69.5 137.3

DBA 107.0 107.7 105.5 107.7 107.7 107.7 106.5 105.8 108.9 112.6 116.0 120.3 118.2 112.2

PMLT 119.6 120.5 118.3 120.6 120.9 120.1 119.9 122.8 125.7 128.3 131.0 128.9 124.9

PNL 119.6 120.5 118.3 120.6 120.9 120.1 119.9 122.8 125.7 128.3 131.0 128.9 124.9

DBA 107.0 107.7 105.5 107.7 107.7 107.7 106.5 105.8 108.9 112.6 116.0 120.3 118.2 112.2

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICLE = ADH705 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVL = 400. FPS
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.25 RELHUM = 76.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBFR

FINI = LBS XNL RPM XNH RPM V8 = 1734.6 FPS AE8 = 20.4 SQ IN
FNAMB = LBS XNLR RPM XNHR RPM V18 = 1734.6 FPS AE18 = 20.4 SQ IN
RUNPT = 400-1216 TAPE = X1216C TEST PT NO = 1216 NC = AE039 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-1216 X1216F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

FREQ

50

63

80

100

125

160

200

250

315

400

500

630

800

1000

1250

1600

2000

2500

3150

4000

5000

6300

8000

207

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 80000 | 65.0 | 67.9 | 62.8 | 69.6 | 67.2 | 66.2 | 65.4 | 65.8 | 66.8 | 64.2 | 63.4 | 64.4 | 64.6 | 139.9 |
| 63000 | 71.2 | 72.4 | 70.2 | 72.6 | 73.1 | 72.5 | 71.0 | 72.1 | 76.6 | 74.0 | 73.2 | 74.2 | 74.4 | 139.9 |
| 50000 | 77.8 | 78.9 | 76.8 | 78.0 | 78.8 | 79.2 | 76.9 | 78.4 | 81.2 | 77.3 | 77.8 | 78.6 | 78.5 | 140.0 |
| 40000 | 83.3 | 84.2 | 81.8 | 83.4 | 84.7 | 83.2 | 82.2 | 83.4 | 85.6 | 81.9 | 82.6 | 83.4 | 83.5 | 140.6 |
| 31500 | 88.3 | 89.0 | 87.3 | 88.1 | 88.1 | 88.1 | 86.3 | 88.0 | 89.8 | 87.5 | 87.1 | 87.5 | 88.6 | 141.2 |
| 25000 | 90.0 | 92.2 | 89.1 | 91.2 | 92.5 | 92.0 | 91.1 | 91.9 | 93.3 | 91.0 | 89.7 | 91.0 | 92.0 | 141.5 |
| 20000 | 94.2 | 94.8 | 93.1 | 95.8 | 94.9 | 93.8 | 93.4 | 94.9 | 97.2 | 93.8 | 92.8 | 94.0 | 95.3 | 142.2 |
| 16000 | 98.0 | 97.9 | 96.8 | 98.1 | 97.8 | 96.3 | 96.3 | 97.3 | 99.9 | 96.6 | 95.6 | 95.1 | 98.5 | 143.3 |
| 12500 | 100.0 | 101.2 | 99.3 | 100.9 | 100.7 | 98.9 | 97.6 | 98.2 | 101.6 | 98.8 | 98.1 | 97.3 | 100.5 | 144.2 |
| 10000 | 102.0 | 102.9 | 101.3 | 103.9 | 103.4 | 100.6 | 98.8 | 99.7 | 101.8 | 100.2 | 99.1 | 98.9 | 101.2 | 145.1 |
| 8000 | 102.3 | 104.3 | 101.5 | 103.2 | 100.0 | 96.8 | 98.4 | 103.0 | 102.4 | 100.4 | 99.8 | 103.1 | 144.8 | |
| 6300 | 104.1 | 103.7 | 99.9 | 100.6 | 100.6 | 98.5 | 96.1 | 99.2 | 103.7 | 102.8 | 102.6 | 100.5 | 104.4 | 144.3 |
| 5000 | 100.4 | 99.8 | 96.3 | 97.8 | 97.9 | 96.9 | 96.9 | 100.4 | 104.5 | 104.2 | 103.0 | 101.8 | 105.1 | 143.4 |
| 4000 | 100.8 | 101.2 | 98.9 | 100.7 | 97.6 | 98.5 | 101.7 | 104.6 | 104.2 | 103.8 | 103.6 | 102.2 | 106.1 | 144.0 |
| 3150 | 102.4 | 102.4 | 100.0 | 102.0 | 99.3 | 98.3 | 98.8 | 104.3 | 104.9 | 103.3 | 107.2 | 144.6 | | |
| 2500 | 104.4 | 103.5 | 100.4 | 101.3 | 101.6 | 99.3 | 96.3 | 97.5 | 103.5 | 104.9 | 106.8 | 105.8 | 107.8 | 145.2 |
| 2000 | 105.3 | 103.9 | 99.8 | 99.2 | 100.8 | 96.8 | 94.1 | 95.9 | 101.9 | 105.6 | 107.0 | 105.9 | 108.2 | 144.9 |
| 1600 | 100.2 | 100.6 | 94.8 | 96.4 | 96.7 | 94.1 | 92.7 | 95.8 | 101.8 | 105.4 | 109.7 | 109.1 | 145.1 | |
| 1250 | 96.3 | 94.0 | 89.7 | 92.7 | 94.7 | 92.8 | 92.0 | 94.7 | 101.3 | 105.2 | 111.3 | 109.9 | 110.0 | 145.5 |
| 1000 | 92.9 | 91.4 | 89.4 | 92.0 | 91.8 | 90.7 | 90.5 | 94.0 | 100.7 | 106.1 | 112.3 | 111.4 | 110.3 | 146.2 |
| 800 | 91.0 | 91.3 | 87.6 | 90.4 | 91.1 | 89.8 | 89.4 | 92.5 | 99.7 | 106.2 | 112.9 | 113.6 | 110.2 | 147.1 |
| 630 | 89.6 | 89.9 | 86.0 | 89.0 | 88.8 | 87.6 | 87.6 | 90.9 | 97.4 | 104.3 | 111.0 | 112.4 | 109.1 | 145.5 |
| 500 | 88.9 | 88.9 | 85.8 | 88.8 | 87.6 | 86.1 | 86.1 | 88.1 | 95.0 | 102.5 | 108.3 | 111.2 | 107.5 | 143.7 |
| 400 | 87.8 | 88.0 | 85.8 | 88.1 | 87.8 | 85.2 | 87.4 | 91.8 | 97.8 | 104.7 | 108.6 | 107.3 | 139.6 | |
| 315 | 86.9 | 86.9 | 84.6 | 87.1 | 85.8 | 84.6 | 86.0 | 89.7 | 92.3 | 98.4 | 103.8 | 106.8 | 137.8 | |
| 250 | 86.9 | 86.8 | 84.6 | 87.1 | 85.7 | 84.6 | 86.0 | 89.7 | 92.3 | 98.4 | 103.8 | 106.8 | 137.8 | |

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VEHICL = ADH705 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CONFIG = 2 TAMB F = 69.00 EXT CONFIG = ARC MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 DEG WIND VEL = NO MPH EXT DIST = 40.0 FT EXT CONFIG = ARC PAMB HG = 29.25 RELHUM = 76.6 PCT
FININI = LBS XNL RPM XNH XNHR = RPM V8 = 1734.6 FPS AEB = 20.4 SQ IN FNRAMB = LBS XNLR = RPM V18 = 1734.6 FPS AEB = 0. SQ IN
RUNPT = 82F-400-1216 TAPE = X1216F TEST PT NO = 1216 NC = AE039 CORR FAN SPEED = RPM

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514
MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

QASPL 113.1 113.1 110.2 111.7 111.5 109.4 108.1 110.0 114.4 116.2 120.3 120.7 120.0 157.9
PNLT 125.1 124.7 121.8 123.5 123.0 121.2 120.2 122.6 126.7 128.1 130.1 129.8 131.2
DBA 187.3 189.6 185.6 190.8 189.3 188.5 187.3 188.1 190.4 187.7 187.1 188.0 188.2

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| FREQ | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 |
|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| PWL | 80.0 | 85.3 | 83.6 | 78.3 | 73.3 | 73.3 | 78.3 | 83.6 | 85.3 | 80.0 | 159.4 | 160.0 |
| 80 | 68.5 | 70.3 | 67.5 | 72.6 | 73.7 | 70.2 | 73.1 | 78.8 | 84.7 | 89.0 | 163.9 | 163.9 |
| 100 | 69.8 | 71.6 | 69.1 | 72.6 | 73.7 | 71.9 | 74.7 | 81.2 | 86.5 | 91.7 | 163.2 | 165.5 |
| 125 | 71.5 | 71.6 | 70.7 | 74.1 | 74.2 | 73.3 | 76.1 | 82.0 | 86.3 | 90.9 | 164.6 | 164.6 |
| 160 | 74.8 | 74.1 | 70.9 | 74.6 | 77.0 | 75.3 | 76.6 | 82.5 | 85.3 | 89.8 | 163.9 | 163.9 |
| 200 | 78.4 | 80.4 | 75.8 | 78.2 | 76.4 | 74.9 | 77.5 | 82.8 | 85.2 | 87.9 | 163.4 | 163.4 |
| 250 | 83.2 | 83.5 | 80.6 | 80.8 | 82.8 | 79.0 | 77.1 | 82.7 | 85.2 | 84.9 | 163.3 | 163.3 |
| 315 | 81.9 | 82.8 | 80.9 | 82.6 | 83.3 | 81.2 | 78.0 | 83.9 | 84.2 | 84.3 | 163.5 | 163.5 |
| 400 | 79.4 | 81.2 | 80.1 | 82.4 | 80.9 | 80.3 | 79.8 | 84.4 | 83.8 | 81.4 | 163.0 | 163.0 |
| 500 | 77.3 | 79.7 | 81.4 | 78.9 | 79.0 | 79.7 | 82.3 | 84.4 | 82.6 | 80.3 | 162.4 | 162.4 |
| 630 | 76.4 | 77.8 | 75.8 | 78.2 | 77.9 | 77.8 | 80.8 | 84.0 | 82.3 | 79.0 | 161.8 | 161.8 |
| 800 | 79.6 | 81.4 | 79.1 | 80.8 | 81.2 | 79.4 | 76.7 | 82.9 | 80.5 | 78.1 | 162.6 | 162.6 |
| 1000 | 77.4 | 81.7 | 80.4 | 82.4 | 83.7 | 80.7 | 78.3 | 79.8 | 75.5 | 71.2 | 163.2 | 163.2 |
| 1250 | 76.6 | 79.9 | 80.0 | 83.7 | 83.8 | 81.2 | 79.2 | 80.5 | 77.2 | 73.6 | 163.5 | 163.5 |
| 1600 | 73.7 | 77.7 | 80.3 | 80.8 | 79.2 | 77.7 | 77.7 | 79.9 | 75.3 | 71.8 | 162.6 | 162.6 |
| 2000 | 70.7 | 73.8 | 74.7 | 77.3 | 77.8 | 76.4 | 76.2 | 77.8 | 72.5 | 68.3 | 161.7 | 161.7 |
| 2500 | 65.1 | 69.4 | 70.2 | 74.3 | 74.2 | 73.5 | 72.7 | 73.4 | 68.4 | 63.7 | 160.6 | 160.6 |
| 3150 | 57.6 | 64.4 | 64.3 | 68.2 | 70.5 | 70.3 | 69.1 | 68.8 | 63.2 | 57.2 | 159.8 | 159.8 |
| 4000 | 49.6 | 56.5 | 58.6 | 61.8 | 63.1 | 63.5 | 61.3 | 61.7 | 55.0 | 48.4 | 159.5 | 159.5 |
| 5000 | 34.9 | 44.1 | 46.9 | 51.7 | 54.7 | 53.8 | 52.2 | 51.7 | 41.9 | 34.1 | 159.0 | 159.0 |
| 6300 | 11.5 | 24.6 | 29.9 | 35.5 | 38.8 | 39.9 | 36.8 | 35.9 | 23.0 | 11.5 | 158.3 | 158.3 |
| 8000 | | | 1.9 | 10.8 | 14.9 | 15.4 | 12.8 | 10.3 | 8.2 | | 158.3 | 158.2 |

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1219 X1219C

BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 82.9 81.0 83.5 82.8 84.1 82.0 84.6 81.8 88.5 88.8 96.4 98.1 97.5 132.2
63 85.0 83.8 88.6 89.1 89.9 87.0 92.4 86.1 91.5 89.9 98.2 98.8 98.3 134.3
80 87.0 90.3 83.6 87.9 87.7 88.3 88.2 88.6 91.8 89.7 98.8 96.0 97.4 132.6
100 85.3 89.3 83.9 88.4 89.2 88.4 88.2 88.7 91.6 90.7 94.6 99.3 100.7 134.3
125 84.9 85.4 85.7 89.4 89.5 89.7 89.0 89.4 91.4 91.7 99.4 103.0 105.0 137.2
150 83.8 81.3 84.6 86.7 86.8 87.0 87.6 89.8 90.8 91.7 99.0 103.2 107.4 137.9
175 83.8 81.3 84.6 86.7 86.8 87.0 87.6 89.8 90.8 91.7 99.0 103.2 107.4 137.9
200 83.8 81.3 84.6 86.7 86.8 87.0 87.6 89.8 90.8 91.7 99.0 103.2 107.4 137.9
250 84.5 90.8 86.6 88.6 89.2 91.1 92.5 94.6 96.1 99.6 106.5 111.5 112.6 144.5
315 85.6 88.4 85.9 90.9 92.5 91.4 92.0 94.7 98.4 101.2 108.1 113.0 115.7 146.6
400 85.8 89.6 87.4 90.2 91.5 90.4 92.0 95.4 99.1 104.9 111.6 115.5 115.7 148.4
500 87.7 90.0 87.3 90.8 92.1 92.2 92.6 95.8 100.0 107.1 113.7 117.4 116.0 149.9
630 89.6 91.6 89.1 93.2 94.0 93.1 94.0 97.7 101.9 108.7 115.1 118.2 116.4 151.9
800 93.7 92.7 95.5 95.0 95.4 95.4 98.5 103.3 110.8 117.7 119.4 118.1 152.9
1000 101.0 101.5 98.3 100.8 98.9 96.5 97.4 100.6 104.8 111.1 117.7 119.4 118.1 152.9
1250 100.2 101.5 99.3 102.8 103.9 102.0 100.9 101.8 106.0 111.4 117.5 119.2 118.7 153.0
1500 105.2 102.3 99.6 100.6 100.2 99.3 100.6 106.6 109.4 117.3 118.9 118.6 115.9 152.7
2000 106.2 105.8 102.5 103.9 103.4 100.1 99.8 102.4 106.6 109.3 116.3 118.6 115.9 152.7
2500 103.6 104.4 102.5 105.0 104.8 102.7 99.9 102.5 105.9 110.1 115.2 116.5 114.5 151.1
3150 103.0 103.8 101.6 104.6 104.2 103.6 102.2 103.6 107.2 109.0 114.8 115.2 113.7 150.5
4000 101.7 102.5 100.0 103.3 103.1 101.8 102.4 105.3 106.9 108.6 112.8 113.4 111.6 149.4
5000 100.9 102.2 100.0 101.7 101.7 100.6 101.5 103.8 107.3 107.2 111.8 111.8 109.8 148.4
6300 99.3 101.7 99.9 102.4 102.1 101.3 101.3 103.7 107.2 106.6 109.7 111.2 109.0 147.9
8000 97.6 99.2 98.5 101.7 102.2 101.0 100.9 102.6 104.7 104.5 107.8 109.1 107.4 147.1
10000 96.1 98.3 97.3 100.9 102.6 101.4 100.9 102.6 104.7 104.5 107.8 109.1 107.4 147.1
12500 93.9 95.8 94.8 98.1 99.9 99.9 99.9 99.4 101.1 102.9 101.6 105.3 106.6 145.6
15000 90.8 93.4 92.1 95.7 97.5 97.5 97.8 99.4 101.7 99.0 103.8 103.8 100.6 144.9
16000 90.8 93.4 92.1 95.7 97.5 97.5 97.8 99.4 101.7 99.0 103.8 103.8 100.6 144.9
20000 87.4 90.6 89.2 92.3 95.1 94.8 95.2 97.0 98.3 96.7 101.0 101.8 97.2 144.0
25000 83.9 86.2 86.4 89.6 91.9 92.3 92.7 94.0 96.2 93.3 98.2 98.3 93.5 143.4
31500 79.8 83.2 82.0 85.5 88.5 88.3 88.3 90.9 92.3 91.1 95.5 95.2 90.5 143.3
40000 75.2 78.6 80.9 84.6 84.7 86.9 86.9 88.8 88.8 88.8 93.7 94.0 86.9 144.6
50000 70.9 73.5 77.5 79.0 80.0 79.9 82.2 85.4 84.8 81.5 91.4 84.3 145.7
63000 65.8 68.3 71.7 75.3 76.2 74.9 77.1 81.8 80.1 91.1 88.2 85.9 148.9
80000 63.0 66.7 68.6 72.5 72.9 70.0 73.0 78.5 77.1 90.7 84.9 80.8 154.0

QASPL 113.0 113.4 111.1 113.7 113.9 112.6 112.4 114.5 117.8 120.8 126.7 128.7 127.8 163.8
PNLT 126.9 127.8 124.1 126.9 128.3 127.1 125.4 127.8 130.7 133.0 138.4 140.1 138.8
DBA 113.6 113.8 111.4 113.9 113.8 112.3 112.0 114.1 117.6 120.8 126.7 128.4 127.1

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICLE = ADH701 TEST DATE = 03-16-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE EXT DIST = 40.0 FT EXT CONFIG = ARC TAMB F = 69.00 PAMB HG = 29.25 RELHUM = 76.6 PCT
WIND DIR = DEG WIND VEL = MPH
FINI1 = LBS XNL RPM XNH RPM V6 = 1738.4 FPS AEG = 20.4 SQ IN
FNAMB = LBS XNLR RPM XNHR RPM V6 = 1738.4 FPS AE18 = 0. SQ IN
RUNPT = 82F-ZER-1219 TAPE = X1219C TEST PT NO = 1219 NC = AE039 CORR FAN SPEED = RPM

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OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1219 X1219F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|--|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PWL | 97.5 | 98.1 | 96.4 | 98.6 | 98.8 | 98.5 | 88.6 | 88.5 | 88.6 | 88.8 | 96.4 | 98.1 | 97.5 |
| 50 | 82.9 | 81.0 | 83.5 | 82.8 | 84.1 | 82.0 | 84.6 | 81.8 | 88.5 | 88.6 | 96.4 | 98.1 | 97.5 |
| 63 | 85.0 | 83.8 | 88.8 | 89.1 | 89.9 | 87.0 | 92.4 | 86.1 | 91.5 | 89.9 | 98.2 | 98.3 | 134.3 |
| 80 | 87.0 | 83.6 | 87.9 | 87.7 | 88.3 | 88.2 | 88.6 | 91.8 | 89.7 | 92.8 | 96.0 | 97.4 | 132.6 |
| 100 | 89.3 | 83.9 | 86.4 | 89.2 | 88.4 | 88.2 | 88.4 | 90.7 | 91.6 | 90.7 | 94.6 | 99.3 | 100.7 |
| 125 | 84.9 | 85.7 | 89.4 | 89.5 | 89.7 | 89.0 | 89.4 | 91.4 | 91.7 | 99.4 | 103.0 | 105.0 | 137.2 |
| 150 | 83.8 | 81.3 | 84.6 | 86.7 | 86.8 | 87.0 | 87.6 | 90.8 | 92.2 | 99.0 | 103.2 | 107.4 | 137.9 |
| 200 | 83.8 | 86.1 | 88.7 | 88.3 | 88.7 | 88.7 | 92.9 | 95.8 | 95.1 | 101.5 | 107.0 | 109.6 | 140.8 |
| 250 | 84.5 | 86.6 | 88.6 | 89.2 | 91.1 | 92.5 | 94.6 | 96.1 | 99.6 | 106.5 | 111.5 | 112.6 | 144.5 |
| 315 | 85.6 | 88.4 | 89.9 | 90.9 | 92.5 | 91.4 | 92.0 | 94.7 | 98.4 | 101.2 | 108.1 | 113.0 | 146.6 |
| 400 | 85.8 | 89.6 | 87.4 | 90.2 | 91.5 | 90.4 | 92.0 | 95.4 | 99.1 | 104.9 | 111.6 | 115.7 | 148.4 |
| 500 | 87.7 | 90.0 | 87.3 | 90.8 | 92.1 | 92.2 | 92.6 | 95.8 | 100.0 | 107.1 | 113.7 | 117.4 | 149.9 |
| 630 | 89.6 | 89.1 | 89.2 | 94.0 | 93.1 | 94.0 | 97.7 | 101.9 | 108.7 | 115.1 | 118.2 | 116.4 | 150.9 |
| 800 | 93.7 | 92.7 | 92.0 | 95.5 | 95.1 | 95.0 | 95.4 | 98.5 | 103.3 | 110.8 | 117.9 | 117.8 | 151.8 |
| 1000 | 101.0 | 101.5 | 98.3 | 100.8 | 98.9 | 96.5 | 97.4 | 100.6 | 104.8 | 111.1 | 117.7 | 119.4 | 152.9 |
| 1250 | 100.2 | 101.5 | 99.3 | 102.8 | 103.9 | 102.0 | 100.9 | 101.8 | 106.0 | 111.4 | 117.5 | 119.2 | 153.0 |
| 1600 | 105.2 | 102.3 | 99.6 | 100.6 | 100.2 | 99.3 | 100.6 | 102.4 | 106.6 | 109.4 | 117.3 | 118.9 | 152.7 |
| 2000 | 106.2 | 105.8 | 102.5 | 103.9 | 103.4 | 100.1 | 99.8 | 102.4 | 107.0 | 110.0 | 116.3 | 118.6 | 152.2 |
| 2500 | 103.6 | 104.4 | 102.5 | 105.0 | 104.8 | 102.7 | 99.9 | 102.5 | 105.9 | 110.1 | 115.2 | 116.5 | 151.1 |
| 3150 | 103.0 | 103.8 | 101.6 | 104.6 | 103.2 | 102.6 | 103.6 | 107.2 | 109.0 | 114.3 | 115.2 | 113.7 | 150.5 |
| 4000 | 101.7 | 102.5 | 100.0 | 103.3 | 103.1 | 101.8 | 102.4 | 105.3 | 106.9 | 112.8 | 111.6 | 109.8 | 149.4 |
| 5000 | 100.9 | 102.7 | 100.0 | 101.7 | 101.7 | 100.6 | 101.5 | 103.8 | 107.2 | 111.8 | 111.2 | 109.0 | 147.9 |
| 6300 | 99.3 | 101.7 | 99.9 | 102.4 | 102.1 | 101.3 | 101.3 | 103.7 | 107.2 | 106.6 | 109.7 | 111.2 | 147.9 |
| 8000 | 97.6 | 99.2 | 98.5 | 101.7 | 102.2 | 101.0 | 100.2 | 102.5 | 106.2 | 105.0 | 108.8 | 109.1 | 147.1 |
| 10000 | 96.1 | 98.3 | 97.3 | 100.9 | 102.6 | 101.4 | 100.9 | 102.6 | 104.7 | 104.5 | 107.5 | 108.0 | 146.9 |
| 12500 | 93.9 | 95.8 | 94.8 | 98.1 | 99.9 | 99.4 | 101.1 | 102.9 | 101.6 | 105.3 | 106.6 | 102.7 | 145.6 |
| 16000 | 90.8 | 93.4 | 92.1 | 95.7 | 97.5 | 97.5 | 97.8 | 99.4 | 101.7 | 99.0 | 103.8 | 100.6 | 144.9 |
| 20000 | 87.4 | 90.6 | 89.2 | 92.3 | 95.1 | 94.8 | 95.2 | 97.0 | 98.3 | 96.7 | 101.0 | 97.2 | 144.0 |
| 25000 | 83.9 | 86.2 | 86.4 | 89.6 | 91.9 | 92.3 | 92.7 | 94.0 | 96.2 | 93.3 | 98.2 | 93.5 | 143.4 |
| 31500 | 79.8 | 83.2 | 82.0 | 85.5 | 88.3 | 88.3 | 88.3 | 90.9 | 92.3 | 91.1 | 95.5 | 95.2 | 143.3 |
| 40000 | 75.2 | 78.6 | 78.9 | 80.9 | 84.6 | 84.7 | 84.8 | 86.9 | 89.0 | 88.8 | 93.7 | 94.0 | 144.6 |
| 50000 | 70.9 | 73.5 | 73.7 | 77.5 | 79.0 | 80.0 | 79.9 | 82.2 | 85.4 | 84.8 | 91.5 | 91.4 | 145.7 |
| 63000 | 65.8 | 69.5 | 68.3 | 71.7 | 75.3 | 76.2 | 74.9 | 77.1 | 81.8 | 80.1 | 88.2 | 85.9 | 148.9 |
| 80000 | 63.0 | 66.7 | 68.6 | 70.0 | 72.5 | 72.9 | 70.0 | 73.0 | 78.5 | 77.1 | 90.7 | 84.9 | 154.0 |
| QASPL | 113.0 | 113.4 | 111.1 | 113.7 | 113.9 | 112.6 | 112.4 | 114.5 | 117.8 | 120.8 | 126.7 | 128.7 | 163.8 |
| PNL | 125.5 | 126.3 | 124.1 | 126.9 | 126.8 | 125.7 | 125.4 | 127.8 | 130.7 | 133.0 | 138.4 | 140.1 | 138.8 |
| PNLT | 126.9 | 127.8 | 124.1 | 126.9 | 126.3 | 127.1 | 125.4 | 127.8 | 130.7 | 133.0 | 138.4 | 140.1 | 138.8 |
| DBA | 184.1 | 187.7 | 189.1 | 188.6 | 193.5 | 194.0 | 191.6 | 194.4 | 199.6 | 198.2 | 211.2 | 206.0 | 202.1 |
| MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES | | | | | | | | | | | | | |
| NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514 | | | | | | | | | | | | | |
| VEHICL | ADH701 | | | | | | | | | | | | |
| TEST DATE | 03-16-82 | | | | | | | | | | | | |
| LOCAL | = C41 ANECH CH | | | | | | | | | | | | |
| CONFIG | = 2 | | | | | | | | | | | | |
| TAMB F | = 69.00 | | | | | | | | | | | | |
| EXT CONFIG | = ARC | | | | | | | | | | | | |
| MIKE HT | = 29.25 | | | | | | | | | | | | |
| RELHUM | = 76.6 PCT | | | | | | | | | | | | |
| FLTVEL | = 0. FPS | | | | | | | | | | | | |
| FINI | = | | | | | | | | | | | | |
| LBS XNL | = | | | | | | | | | | | | |
| RPM | = | | | | | | | | | | | | |
| XNHR | = | | | | | | | | | | | | |
| RPM | = | | | | | | | | | | | | |
| V8 | = 1738.4 FPS | | | | | | | | | | | | |
| AE8 | = 20.4 SQ IN | | | | | | | | | | | | |
| AE18 | = | | | | | | | | | | | | |
| NR | = | | | | | | | | | | | | |
| TEST PT NO | = 1219 | | | | | | | | | | | | |
| NC | = AE039 | | | | | | | | | | | | |
| CORR FAN SPEED | = | | | | | | | | | | | | |
| RPM | = | | | | | | | | | | | | |

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-1220 X1220C
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 85.4 83.7 82.5 84.5 83.6 81.7 81.9 82.0 84.7 83.1 91.4 92.9 95.0 128.8

63 84.2 84.3 91.0 80.6 89.2 84.8 81.9 87.8 90.0 87.1 90.7 92.4 95.1 131.8

80 86.8 90.6 84.1 88.1 87.7 87.6 87.0 89.7 89.9 87.7 92.6 97.5 132.7

100 84.6 88.8 82.6 86.9 87.7 87.6 87.0 89.7 89.9 87.7 92.6 97.5 132.7

125 82.6 83.4 83.7 87.2 87.8 87.7 87.0 87.9 88.5 88.5 100.3 102.7 134.7

150 80.0 79.3 82.3 83.5 83.6 84.5 84.9 87.3 89.7 96.5 100.5 104.6 135.2

200 82.0 81.8 81.6 83.4 84.7 85.1 85.7 86.9 91.6 91.4 97.0 103.2 137.0

250 80.8 82.8 80.8 84.4 84.2 85.8 86.7 90.4 92.1 95.4 101.8 107.5 140.2

315 79.8 82.1 81.4 84.9 86.3 86.4 86.8 89.7 93.4 96.9 103.8 108.5 141.6

400 81.3 83.1 81.4 85.4 85.8 86.1 86.3 89.4 93.9 99.7 106.8 110.5 142.9

500 82.2 84.5 81.3 85.8 86.6 87.7 88.1 88.7 89.9 90.8 95.3 102.1 109.0 111.1 106.8 143.7

630 83.8 85.8 83.6 86.7 87.7 88.1 88.7 89.9 90.8 95.3 102.1 109.0 111.1 106.8 143.7

800 86.2 88.2 85.5 89.0 90.0 90.6 93.8 98.8 105.8 112.7 110.9 102.0 145.6

1000 92.2 90.5 87.0 91.6 90.8 91.4 95.1 99.8 107.1 112.7 110.1 100.3 145.7

1250 97.0 98.3 93.8 95.6 94.2 92.3 92.4 96.3 101.0 106.4 112.7 108.4 100.2 145.6

1600 101.2 101.0 98.6 99.6 96.7 93.3 93.4 96.9 101.6 105.4 111.5 106.7 99.7 145.1

2000 100.9 101.1 99.7 101.6 101.4 97.6 95.0 97.4 102.0 106.0 109.5 105.6 98.9 144.8

2500 98.4 98.9 97.7 100.5 101.1 100.2 97.9 98.5 101.9 105.9 107.2 103.2 97.7 143.9

3150 96.5 97.3 96.6 98.3 99.2 99.0 99.6 100.3 102.7 104.5 106.0 101.7 94.9 143.1

4000 97.4 97.2 94.7 97.0 96.8 96.3 97.9 97.8 101.6 103.1 104.3 104.1 98.4 142.4

5000 98.6 98.7 97.0 98.5 96.7 96.1 95.5 99.6 103.1 102.7 103.3 97.3 92.6 142.0

6300 97.8 100.0 98.1 99.9 98.6 96.8 95.6 99.5 102.7 102.9 101.9 96.2 92.2 142.4

8000 95.4 96.2 95.8 99.4 99.6 98.6 97.1 95.7 101.0 99.5 94.8 91.2 141.5

10000 94.1 95.8 94.3 97.9 99.6 98.6 97.1 98.8 100.2 100.3 98.8 94.0 90.0 141.7

12500 92.1 93.3 92.6 95.1 96.6 96.9 95.9 97.6 98.4 97.3 96.3 92.6 87.9 140.4

16000 88.8 90.6 89.1 93.2 94.3 94.0 94.3 96.4 97.7 94.5 93.8 87.0 85.9 139.8

20000 87.3 86.4 86.8 91.3 91.6 91.2 93.8 95.1 92.7 90.8 87.3 82.9 138.8

25000 82.2 82.9 82.8 86.3 87.9 88.5 88.7 90.5 88.6 88.8 85.3 79.5 137.9

31500 77.1 79.5 78.8 82.0 84.0 84.6 84.3 86.9 88.3 85.1 84.0 80.9 75.5 137.2

40000 72.2 74.3 74.7 77.1 79.8 80.7 80.5 83.2 83.7 81.5 80.5 77.3 71.1 137.2

50000 66.6 69.8 68.2 71.5 74.7 76.7 74.9 77.7 79.4 76.0 75.2 72.6 64.8 136.5

63000 61.0 65.5 63.6 66.5 69.3 72.0 69.4 72.1 74.0 70.8 70.1 67.4 59.9 136.6

80000 59.3 64.5 61.3 70.7 73.9 76.7 74.7 79.8 80.5 78.0 75.4 72.6 64.7 139.3

DBA 109.1 109.6 107.7 109.8 109.5 108.0 107.3 109.9 113.1 116.4 120.8 118.3 112.5

PWL 121.0 121.5 120.0 122.5 122.5 121.5 121.5 123.9 126.4 128.8 131.6 129.1 125.0

DBA 109.1 109.6 107.7 109.8 109.5 108.0 107.3 109.9 113.1 116.4 120.8 118.3 112.5

NASA SHOCK CELL/CIRCULAR C-D NO2/AX/SC-2/NAS3-22514

VEHICL = ADH704 TEST DATE = 03-16-82 LOCAT = C41 ANECH CH CONFID = 2 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.25 RELHUM = 76.6 PCT
WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFID = ARC MIKE HT = NBFR
FNINI = LBS XNL RPM XNHR = RPM V8 = 1744.1 FPS AEB = 20.4 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1744.1 FPS AEB = 0. SQ IN
RUNPT = 82F-400-1220 TAPE = X1220C TEST PT NO = 1220 NC = AE039 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-1220 X1220F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

FREQ

50

63

80

100

125

150

200

250

315

400

500

630

800

1000

1250

1600

2000

2500

3150

4000

5000

6300

8000

10000

12500

16000

20000

25000

31500

40000

50000

63000

80000

ORIGINAL PAGE IS
OF POOR QUALITY

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 250 | 67.4 | 88.4 | 85.2 | 87.3 | 85.6 | 85.8 | 84.8 | 86.8 | 89.9 | 92.6 | 98.9 | 104.1 | 107.1 | 138.0 |
| 315 | 87.4 | 88.4 | 85.2 | 87.3 | 88.1 | 86.6 | 85.4 | 86.9 | 90.6 | 95.6 | 102.4 | 106.8 | 107.3 | 139.8 |
| 400 | 87.5 | 88.5 | 86.3 | 88.3 | 87.6 | 86.4 | 85.0 | 86.7 | 92.3 | 98.3 | 105.0 | 108.3 | 107.3 | 141.2 |
| 500 | 88.6 | 89.3 | 86.2 | 88.7 | 88.5 | 88.1 | 85.6 | 88.1 | 95.4 | 102.4 | 108.4 | 111.1 | 107.8 | 143.7 |
| 630 | 89.7 | 90.8 | 86.2 | 89.2 | 89.6 | 88.5 | 88.1 | 91.1 | 97.9 | 104.7 | 111.9 | 112.6 | 109.6 | 146.0 |
| 800 | 90.8 | 91.8 | 88.3 | 92.0 | 91.3 | 89.8 | 90.1 | 92.3 | 99.4 | 106.6 | 112.7 | 113.4 | 110.6 | 147.0 |
| 1000 | 93.0 | 92.1 | 90.2 | 93.4 | 92.8 | 91.4 | 91.0 | 93.7 | 100.9 | 106.1 | 113.1 | 112.0 | 110.8 | 146.8 |
| 1250 | 98.4 | 95.5 | 90.8 | 94.2 | 96.0 | 93.1 | 92.2 | 95.2 | 101.6 | 105.2 | 111.9 | 110.2 | 110.3 | 146.0 |
| 1600 | 104.0 | 104.1 | 98.2 | 98.6 | 98.7 | 94.3 | 93.4 | 96.7 | 102.3 | 106.0 | 110.1 | 109.3 | 107.2 | 146.0 |
| 2000 | 108.4 | 107.0 | 103.2 | 102.8 | 103.6 | 98.8 | 95.3 | 96.7 | 102.6 | 106.3 | 108.0 | 107.2 | 106.7 | 146.8 |
| 2500 | 106.7 | 105.9 | 103.6 | 104.6 | 103.8 | 101.8 | 98.7 | 98.3 | 104.0 | 105.8 | 108.1 | 107.1 | 107.7 | 146.8 |
| 3150 | 104.7 | 104.7 | 102.6 | 104.3 | 102.3 | 101.0 | 100.8 | 100.5 | 105.1 | 106.2 | 106.6 | 104.2 | 107.2 | 146.2 |
| 4000 | 103.2 | 103.4 | 101.8 | 100.5 | 98.9 | 99.6 | 102.6 | 104.3 | 104.8 | 104.5 | 103.9 | 103.0 | 101.5 | 105.0 |
| 5000 | 102.5 | 102.3 | 103.6 | 103.5 | 100.7 | 98.1 | 99.6 | 103.6 | 103.6 | 102.7 | 101.1 | 104.3 | 145.6 | |
| 10000 | 102.5 | 102.6 | 101.3 | 103.9 | 101.6 | 99.5 | 100.5 | 102.3 | 101.0 | 100.5 | 99.8 | 102.0 | 145.1 | |
| 12500 | 101.0 | 101.9 | 99.6 | 102.1 | 99.9 | 98.4 | 99.4 | 102.2 | 98.9 | 98.6 | 98.1 | 100.9 | 144.9 | |
| 16000 | 98.5 | 98.9 | 97.3 | 98.8 | 98.3 | 97.0 | 96.8 | 98.3 | 99.8 | 97.3 | 96.1 | 95.9 | 98.7 | 143.9 |
| 20000 | 94.7 | 95.8 | 93.4 | 96.5 | 95.4 | 94.6 | 93.6 | 95.6 | 97.3 | 94.2 | 93.5 | 94.5 | 95.8 | 142.8 |
| 25000 | 91.0 | 91.9 | 90.1 | 92.5 | 92.0 | 91.5 | 91.1 | 92.3 | 94.3 | 91.0 | 90.6 | 90.9 | 92.6 | 141.8 |
| 31500 | 86.7 | 86.7 | 86.1 | 88.2 | 88.6 | 87.6 | 86.8 | 88.7 | 90.5 | 88.1 | 87.8 | 88.0 | 89.1 | 141.2 |
| 40000 | 83.6 | 84.7 | 82.6 | 84.2 | 84.4 | 83.7 | 83.0 | 84.9 | 86.3 | 82.8 | 82.7 | 83.6 | 83.3 | 141.1 |
| 50000 | 78.3 | 79.1 | 78.1 | 79.0 | 79.3 | 79.7 | 77.3 | 79.2 | 81.9 | 78.7 | 78.6 | 79.5 | 79.3 | 140.7 |
| 63000 | 71.7 | 73.7 | 70.7 | 72.4 | 73.9 | 71.8 | 73.7 | 77.6 | 75.1 | 74.6 | 75.2 | 76.3 | 141.0 | |
| 80000 | 64.7 | 67.9 | 64.5 | 65.9 | 68.2 | 67.2 | 66.2 | 68.0 | 67.8 | 65.3 | 64.8 | 65.4 | 66.5 | 140.3 |
| QASPL | 114.9 | 114.6 | 112.0 | 113.4 | 112.8 | 110.7 | 109.2 | 110.8 | 114.9 | 116.8 | 120.9 | 120.9 | 120.4 | 158.6 |
| PNLT | 127.1 | 126.6 | 124.0 | 125.5 | 124.6 | 122.6 | 121.7 | 123.5 | 127.3 | 129.0 | 131.2 | 130.6 | 131.5 | |
| DBA | 167.3 | 169.9 | 166.9 | 168.3 | 168.1 | 169.8 | 168.1 | 190.0 | 191.5 | 186.8 | 188.4 | 189.0 | 189.9 | |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH704 TEST DATE = 03-16-82
IAPLHA = SB59 IEGA = NO
WIND DIR = DEG WIND VEL = MPH
LOCAT = C41 ANECH CH CNFIO = 2
TAMB F = FULL SPHERE
EXT DIST = 40.0 FT
EXT CNFIO = ARC
PAMB HG = 29.25
MIKE HT =
FLVEL = 400. FPS
RELHUM = 76.6 PCT
NBFR =
FINI1 = LBS XNL RPM
XNH XNHR = RPM
V6 V18 = 1744.1 FPS
AE8 AE18 = 20.4 SQ IN
0. SQ IN
CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1221 X1221C

BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

| | | | | | | | | | | | | | |
|--|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|
| | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|--|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|

| | | | | | | | | | | | | | | | | | | | | | | | |
|------|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|-------|-------|
| FREQ | 50 | 63 | 80 | 100 | 125 | 160 | 200 | 250 | 315 | 400 | 500 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 2500 | 3150 | 4000 | 5000 | 63000 | 80000 |
|------|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|-------|-------|

PWL

82.9 82.5 84.0 84.0 82.9 83.0 84.4 88.0 88.5 90.1 99.4 99.1 96.3 133.6

85.0 85.5 89.8 89.1 88.9 87.0 92.2 90.6 92.0 90.9 100.0 99.4 96.8 135.1

87.5 91.1 84.6 88.1 88.0 89.1 88.2 90.1 91.6 90.7 97.5 96.9 133.7

86.3 90.1 84.6 88.4 89.7 88.9 88.7 90.3 89.7 88.8 90.7 91.4 92.5 100.4 102.8 105.0 137.4

85.1 85.6 85.4 88.7 87.2 87.1 87.5 89.1 90.6 93.4 100.3 104.0 107.6 138.5

84.3 82.8 85.1 86.4 87.2 87.1 87.5 89.1 90.6 93.4 100.3 104.0 107.6 138.5

101.2 101.2 98.3 100.8 98.9 96.8 97.1 100.8 105.0 111.8 118.5 119.4 118.8 153.3

101.0 102.3 100.3 103.1 103.2 102.3 101.4 102.3 106.0 111.4 118.0 119.7 118.7 153.4

106.7 104.5 101.6 102.6 104.7 100.8 100.5 102.9 107.2 110.5 117.0 118.6 115.6 152.6

106.9 107.1 104.2 105.6 104.7 100.8 100.5 102.9 107.2 110.5 117.0 118.6 115.6 152.6

105.1 105.7 103.5 106.0 105.8 103.4 101.6 103.2 106.9 109.9 116.2 116.7 114.2 151.7

103.7 104.8 103.1 105.3 105.4 104.2 104.1 104.3 107.4 109.0 115.5 115.2 113.2 151.0

102.2 103.2 104.0 104.6 103.3 103.7 105.8 107.6 109.1 113.6 111.4 109.3 148.8

101.6 102.7 101.2 102.5 102.9 101.9 102.3 104.8 107.6 107.7 112.0 111.8 109.3 148.8

99.8 102.0 100.4 102.9 102.6 102.5 101.6 105.2 108.0 106.6 110.9 110.7 108.0 148.4

98.4 99.2 98.8 101.9 102.7 101.7 100.9 103.5 107.4 105.4 105.3 108.6 106.4 147.3

96.9 98.6 97.8 100.9 102.4 101.4 101.4 104.1 104.3 107.4 109.0 115.5 113.2 151.0

96.9 98.6 97.8 100.9 102.4 101.4 101.4 104.1 104.3 107.4 109.0 115.5 113.2 151.0

94.9 96.3 95.1 98.6 100.1 100.4 99.7 101.8 103.7 102.8 106.1 106.1 102.2 146.0

91.8 93.4 92.6 96.2 97.8 98.3 99.9 102.2 99.5 104.0 104.3 99.6 145.3

88.4 91.1 89.4 93.0 95.8 95.6 95.4 97.5 99.3 97.7 100.8 101.0 97.2 144.3

85.2 86.9 86.7 89.6 92.4 93.0 92.9 94.7 96.7 94.1 98.5 98.0 92.5 143.8

80.8 83.7 82.5 85.7 88.2 88.6 89.1 91.7 92.8 91.6 96.0 94.9 88.7 143.6

76.7 78.8 79.2 81.1 85.1 85.2 86.9 87.9 89.0 89.3 94.7 93.3 86.6 145.0

71.1 74.5 73.7 76.2 80.2 81.0 80.9 83.2 86.1 85.0 92.5 91.1 84.3 146.3

68.5 71.0 68.6 72.2 76.8 76.2 76.1 78.6 83.0 81.3 91.6 87.7 80.4 149.2

65.8 69.0 65.8 67.0 70.8 71.4 70.5 75.7 78.3 79.9 90.4 83.2 77.0 153.7

113.9 114.3 112.2 114.5 114.6 113.3 113.1 115.4 118.3 121.3 127.5 129.0 127.9 164.2

126.4 127.2 125.3 127.6 127.7 126.5 126.4 128.5 131.1 133.3 139.4 140.3 138.6

127.7 128.5 125.3 127.6 128.8 127.9 126.4 128.5 131.1 133.3 139.4 140.3 138.6

114.5 114.8 112.6 114.8 114.7 113.1 112.8 114.9 118.1 121.2 127.5 128.6 127.2

DBA 114.5 114.8 112.6 114.8 114.7 113.1 112.8 114.9 118.1 121.2 127.5 128.6 127.2

NASA SHOCK CELL/CIRCULAR C-D NO2/AX/SC-2/NAS3-22514

VEHICL = ADH702 TEST DATE = 03-16-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS

IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.25 RELHUM = 76.6 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNF1G = ARC MIKE HT = NBFR

FNINI = LBS XNL RPM XNH RPM XNHR = V6 RPM V8 = 1756.1 FPS AEB = 20.4 SQ IN

FNRAMB = LBS XNLR = RPM XNHR = V8 RPM V8 = 1756.1 FPS AEB = 20.4 SQ IN

RUNPT = 82F-ZER-1221 TAPE = X1221C TEST PT NO = 1221 NC = AE039 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1221 X1221F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

80 87.5 91.1 84.6 88.1 88.0 89.1 88.2 90.1 91.6 90.7 97.0 97.5 96.9 133.7

100 86.3 90.1 84.6 88.4 89.7 88.9 88.7 92.7 92.4 91.2 97.6 99.8 100.4 135.1

125 85.1 85.6 85.4 86.7 90.3 89.7 88.8 90.7 91.4 92.5 100.4 102.8 105.0 137.4

150 84.3 82.8 85.1 86.4 87.2 87.1 87.5 89.1 90.6 93.4 100.3 104.0 107.6 138.5

200 83.8 87.1 85.6 88.6 89.2 88.6 89.0 93.9 96.3 95.9 102.0 107.2 110.1 141.2

250 84.5 91.3 86.8 88.9 89.5 91.1 93.0 95.9 96.8 100.1 107.5 112.2 113.1 145.2

315 85.6 88.9 86.4 89.2 91.2 92.5 95.7 98.9 101.7 108.6 113.3 115.4 146.7

400 86.3 89.9 87.9 90.2 91.5 90.9 92.3 96.2 99.9 105.7 112.1 116.3 116.2 149.0

500 88.2 90.2 87.8 90.8 92.1 92.7 92.9 96.5 100.8 107.3 114.2 117.4 116.3 150.1

600 93.4 92.5 92.0 95.3 95.9 95.0 96.1 99.5 103.8 111.3 117.7 118.9 118.5 152.6

800 93.4 92.5 92.0 95.3 95.9 95.0 96.1 99.5 103.8 111.3 117.7 118.9 118.5 152.6

1000 101.2 101.2 98.3 100.8 98.9 96.8 97.1 100.8 105.0 111.8 118.5 119.4 118.8 153.3

1250 101.0 102.3 103.1 103.2 102.3 101.4 102.3 106.0 111.4 118.0 119.7 118.7 118.7 153.4

1500 106.7 104.5 101.6 102.6 101.2 99.3 100.4 102.9 106.6 110.4 118.3 119.2 118.2 153.2

2000 106.9 107.1 104.2 105.6 104.7 100.8 100.5 102.9 107.2 110.5 117.0 118.6 115.6 152.6

2500 105.1 105.7 103.5 106.0 105.8 103.4 101.6 103.2 106.9 109.9 116.2 114.2 114.2 151.7

3150 103.7 104.8 103.1 105.3 105.4 104.2 104.3 107.4 109.0 115.5 115.2 113.2 113.2 151.0

4000 102.2 103.2 101.2 104.0 104.6 103.3 103.7 105.8 107.6 109.1 113.1 113.6 111.4 149.8

5000 101.6 102.7 101.2 102.5 102.9 101.9 102.3 104.8 107.8 112.0 111.8 108.0 148.4

6300 99.8 102.0 100.4 102.9 102.6 102.5 101.6 102.5 106.6 110.9 110.7 108.0 148.4

8000 98.4 99.2 98.8 101.9 102.7 101.7 100.9 103.5 107.0 106.0 109.3 108.6 106.4 147.4

10000 96.9 98.8 97.8 100.9 102.4 101.4 101.4 104.1 105.4 105.3 108.3 108.0 104.8 147.3

12500 94.9 96.3 95.1 98.6 100.1 100.4 99.7 101.8 103.7 102.8 106.1 106.1 102.2 146.0

15000 91.8 93.4 92.6 96.2 97.8 98.3 99.9 99.3 99.9 99.5 104.0 104.3 99.6 145.3

20000 88.4 89.4 89.0 93.0 95.8 95.6 95.4 97.5 99.3 97.7 100.8 101.0 97.2 144.3

25000 85.2 86.9 86.7 89.6 92.4 93.0 92.9 94.7 96.7 94.1 98.5 98.0 92.5 143.8

31500 80.8 83.7 82.5 85.7 88.6 88.2 85.8 87.9 89.0 89.3 94.7 93.3 86.6 143.6

40000 76.7 78.8 79.2 81.1 85.1 85.2 85.8 87.9 89.0 89.3 94.7 93.3 86.6 143.6

50000 71.1 74.5 73.7 76.2 80.2 81.0 80.9 83.2 86.1 85.0 92.5 91.1 84.3 146.3

63000 68.5 71.0 68.6 72.2 76.8 76.2 76.1 78.6 83.0 81.3 91.6 87.7 80.4 149.2

80000 65.8 69.0 65.8 67.0 70.8 70.5 70.5 75.7 78.3 79.9 90.4 83.2 77.0 153.7

GASPL 113.9 114.3 112.2 114.5 114.6 113.3 113.1 115.4 118.3 121.3 127.5 129.0 127.9 164.2

PNL 127.7 128.5 125.3 127.6 128.8 127.9 126.4 128.5 131.1 133.3 139.4 140.3 138.6

DBA 186.7 189.8 186.9 188.6 192.6 193.0 192.3 196.8 199.6 200.6 211.0 204.5 198.1

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH702 TEST DATE = 03-16-82 LOCAT = C41 ANECH CH CNFIG = 2 MODEL = AX FLVEL = 0. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.25 RELHUM = 76.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBR

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 1756.1 FPS AE8 = 20.4 SQ IN
FNFRMB = LBS XNL RPM XNH XNHR = RPM V18 = 1756.1 FPS AE18 = 0. SQ IN

RUNPT = ZER-1221 TAPE = X1221F TEST PT NO = 122 NC = AE039 CORR FAN SPEED = RPM

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OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1221 X12211

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 65.3 70.3 69.4 72.4 74.2 73.7 74.9 78.4 81.4 86.2 91.0 93.0 89.6 167.4

63 67.1 70.7 69.3 73.0 74.8 75.5 78.8 82.3 87.8 93.1 94.1 89.6 168.5

80 68.9 72.5 71.1 75.3 76.6 76.4 76.9 80.6 83.3 90.6 94.9 95.4 90.1 169.9

100 72.2 72.8 73.4 77.4 78.4 77.7 78.7 81.7 85.2 91.7 96.5 95.4 91.6 171.0

125 79.9 81.5 79.6 82.9 81.4 79.4 79.6 82.9 86.4 92.1 97.1 95.8 91.7 171.7

160 79.4 82.3 81.5 85.0 85.5 84.8 83.8 84.3 87.2 91.4 96.4 95.8 91.1 171.7

200 85.0 84.4 82.6 84.4 83.4 81.7 82.6 84.7 87.6 90.3 96.5 95.0 90.2 171.6

250 84.8 86.7 85.0 87.2 86.7 83.0 82.6 84.4 88.0 90.1 94.9 94.0 87.0 171.0

315 82.6 84.9 83.9 87.3 87.6 85.3 83.4 84.5 87.3 89.1 93.6 91.5 84.8 170.0

400 80.7 83.6 83.2 86.3 86.9 85.8 85.3 87.5 87.8 92.5 98.3 82.7 169.4

500 78.7 81.7 81.0 84.7 85.8 84.6 84.9 86.4 87.4 87.5 89.6 87.2 80.0 168.2

630 77.6 80.8 80.7 82.9 83.8 82.9 83.2 85.2 87.3 85.7 88.0 84.6 76.8 167.2

800 75.3 79.7 79.6 83.0 83.2 83.4 82.2 85.4 87.2 84.3 86.4 82.8 74.3 166.8

1000 73.4 76.6 77.7 81.8 83.2 82.4 81.4 83.4 85.9 83.4 84.4 80.0 71.7 165.8

1250 71.4 75.9 76.5 80.6 82.7 81.9 81.7 83.8 84.1 82.3 82.8 78.6 68.5 165.6

1600 68.6 72.8 73.3 78.0 80.2 80.7 79.8 81.3 81.9 79.3 79.8 75.5 63.6 164.4

2000 64.5 69.2 70.5 75.4 77.7 78.4 78.3 79.1 80.1 75.4 76.7 72.0 58.0 163.7

2500 59.4 65.7 66.5 71.5 75.2 75.2 74.8 76.0 76.4 72.3 71.7 65.9 50.7 162.7

3150 52.7 59.1 61.8 66.5 70.4 71.3 70.9 71.7 71.8 66.3 66.0 57.9 37.6 162.1

4000 42.1 51.2 53.9 59.4 63.2 64.0 64.1 65.4 64.1 59.0 57.3 45.9 19.3 162.0

5000 28.2 38.7 44.3 49.4 55.1 55.8 55.8 56.2 54.1 49.2 46.3 30.5 4.3 163.4

6300 4.9 20.2 26.8 33.7 40.2 41.7 40.9 40.7 39.2 30.7 26.2 4.3 164.7

8000 0.2 10.5 18.6 19.1 17.9 16.9 14.7 2.2 167.5

10000 167.5

12500 172.1

16000

20000

25000

31500

40000

50000

63000

80000

DBA 84.9 87.8 87.5 90.9 92.0 91.3 90.9 92.6 94.2 93.2 96.2 93.8 87.3

PMLT 96.5 96.8 98.1 101.1 102.7 102.3 101.3 102.7 104.8 105.0 109.3 107.5 100.1

PWL 95.4 98.2 97.6 101.1 102.2 101.6 101.3 102.7 104.3 104.5 108.3 106.3 100.1

DBA 84.9 87.8 87.5 90.9 92.0 91.3 90.9 92.6 94.2 93.2 96.2 93.8 87.3

MODEL AREA = 131.5 SQ CM (20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

NAS SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH702 TEST DATE = 03-16-82 LCAT = C41 ANECH CH CNF10 = 2 MODEL = AX FLTVEL = 0. FPS

IAPLHA = SB59 DEG WIND VEL = NO PML AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.25 RELHUM = 76.6 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNF10 = SL MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1756.1 FPS AE8 = 20.4 SQ IN

FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = FPS AE18 = 0. SQ IN

RUNPT = 82F-ZER-1221 TAPE = X12211 TEST PT NO = 1221 NC = AE039 CORR FAN SPEED = RPM

ORIGINAL PAGE 18
OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-1222 X1222C
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 85.7 84.0 82.0 82.5 82.1 82.2 83.4 82.5 84.2 83.6 90.7 90.9 96.5 128.7
60 85.5 85.3 89.5 89.6 88.2 85.3 91.7 87.3 89.3 86.4 91.5 91.9 95.6 131.5
80 87.3 91.1 84.1 87.6 87.2 88.6 88.2 89.4 91.3 87.7 91.3 93.7 97.1 132.0
100 84.6 88.6 86.7 88.0 87.1 87.0 90.2 90.4 87.4 91.6 97.3 99.9 132.8
125 83.1 84.1 83.2 87.2 87.8 87.4 87.0 87.9 89.2 88.7 96.1 100.3 134.8
160 80.3 79.8 82.8 83.9 84.1 84.5 85.1 87.1 89.2 89.2 96.8 100.2 135.7
200 81.8 82.3 81.1 83.4 84.7 84.1 85.5 86.9 92.1 90.9 97.0 103.2 137.4
250 80.8 80.8 80.8 84.4 84.5 85.8 87.0 90.4 91.8 95.4 102.5 107.5 140.3
315 80.8 82.9 81.4 85.2 86.3 86.1 86.8 89.7 93.9 96.9 103.8 109.9 141.8
400 81.8 83.9 81.6 85.4 86.0 86.1 86.8 89.9 94.4 100.4 107.1 110.5 143.0
500 82.9 83.7 81.8 86.0 87.4 87.5 87.1 91.0 94.8 102.1 109.5 111.6 144.1
630 84.1 85.8 83.4 87.7 88.1 89.0 93.2 97.1 105.2 111.3 112.0 103.4 145.2
800 86.9 86.5 85.5 89.3 89.6 89.5 90.4 94.5 99.3 106.6 112.7 111.4 101.8 145.8
1000 93.7 92.2 87.8 91.6 91.4 90.5 91.6 96.1 100.3 107.1 113.0 110.9 100.1 146.0
1250 99.2 101.0 96.0 97.1 94.4 93.0 92.9 96.6 101.5 106.9 113.5 108.9 100.9 146.3
1600 103.7 102.8 100.8 101.8 98.4 95.1 94.4 96.9 102.6 106.1 107.7 100.4 146.2
2000 102.9 103.8 101.7 103.9 103.4 99.8 96.3 98.4 102.5 106.0 110.5 106.6 98.6 146.1
2500 99.9 100.9 99.2 102.5 103.1 101.7 99.6 99.5 102.4 105.9 108.2 104.2 97.5 144.9
3150 98.0 99.3 97.6 100.6 100.7 100.5 100.9 101.6 103.9 106.5 102.2 96.2 94.9 144.1
4000 99.2 99.0 96.2 99.0 98.8 97.8 99.2 103.5 104.4 105.1 105.1 99.6 94.9 143.7
5000 99.1 99.9 97.2 99.7 98.2 97.4 97.3 101.1 104.6 103.4 103.5 98.6 93.6 143.0
6300 98.3 100.2 98.1 99.2 98.3 97.1 100.2 103.2 103.4 102.4 98.0 93.0 143.1
8000 96.1 97.5 96.3 99.7 100.2 98.5 96.7 98.5 102.7 102.0 101.0 96.1 91.9 142.4
10000 95.1 96.3 95.1 98.4 99.9 99.1 98.4 99.3 101.2 101.0 99.5 94.7 91.0 142.4
12500 92.6 93.8 92.8 95.8 97.6 97.1 96.7 98.3 99.2 98.1 97.1 93.9 90.2 141.1
16000 89.8 91.1 89.8 93.2 95.0 95.3 94.8 96.7 98.2 95.3 94.5 91.1 86.9 140.4
20000 85.7 88.1 86.7 90.5 92.1 92.6 92.2 94.3 95.6 93.2 91.8 87.8 83.7 139.5
25000 82.2 83.9 83.4 86.3 88.7 90.0 89.4 91.0 92.2 89.1 88.2 86.0 80.8 138.5
31500 77.8 80.2 80.3 82.2 85.3 85.3 85.1 87.7 88.0 86.1 84.5 82.2 76.2 137.8
40000 72.9 75.6 77.2 77.4 80.3 81.7 81.0 83.7 84.5 82.3 80.7 78.3 71.6 137.9
50000 67.1 69.8 72.7 72.0 75.0 76.7 76.2 78.0 79.9 77.0 76.0 73.9 66.1 137.2
63000 62.0 65.7 65.1 66.2 70.3 71.5 69.9 72.4 75.0 72.1 71.3 68.7 60.4 137.2
80000 60.5 65.2 62.1 61.2 64.3 64.4 64.3 66.0 70.0 70.0 66.9 64.9 54.5 138.7

821
DASPL 110.3 111.0 108.8 111.2 111.0 109.7 109.1 111.3 114.3 116.9 121.6 120.5 117.1 157.4
PNL 122.6 123.4 121.3 124.0 124.0 122.7 122.6 125.1 127.4 129.1 132.3 129.9 125.3
DBA 110.8 111.4 109.1 111.5 111.0 109.4 108.6 110.9 114.1 116.8 121.4 118.9 112.6

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH703 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 400. FPS
WIND DIR = SB59 IEGA = NO EXT DIST = 40.0 FT PWL AREA = FULL SPHERE TAMB F = 69.00 MIKE HT = 29.25 RELHUM = 76.6 PCT
FNIN1 = LBS XNLR = RPM XNHR = RPM V8 = 1755.3 FPS AEB = 20.4 SO IN NBFR =

RUNPT = 82F-400-1222 TAPE = X1222C TEST PT NO = 1222 NC = AE039 CORR FAN SPEED = RPM
FNIN1 = LBS XNLR = RPM XNHR = RPM V8 = 1755.3 FPS AEB = 20.4 SO IN NBFR =

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4.4 Acoustic Data of Model 3

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-0303 X0303F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL 50 84.7 84.0 82.7 82.0 82.6 84.2 85.6 86.5 103.7 94.1 93.9 94.1 95.8 136.4

63 88.5 87.5 88.5 88.3 89.9 91.0 92.2 91.8 100.8 99.6 99.5 98.9 99.8 137.7

80 90.8 90.6 90.6 90.6 92.0 94.6 95.2 94.4 99.0 95.3 95.3 95.3 95.3 137.7

100 90.6 96.3 92.4 94.2 95.1 96.5 97.7 97.3 98.4 100.3 103.8 104.9 140.1

125 87.1 89.6 90.7 92.9 93.8 96.4 97.0 96.9 101.5 106.6 108.0 108.5 143.0

160 86.8 86.8 86.8 89.8 90.1 89.5 91.1 94.0 95.4 98.8 102.9 109.2 143.8

200 88.5 87.6 89.3 89.9 91.5 95.1 95.2 96.9 102.8 104.6 108.0 112.0 145.8

250 88.5 91.3 91.8 93.6 94.0 94.6 97.5 100.6 105.8 111.4 114.8 116.5 150.4

315 88.1 91.1 91.1 91.7 93.3 97.1 98.8 101.9 106.8 113.2 115.1 117.3 151.2

400 90.1 92.1 92.9 93.4 93.8 97.6 100.0 103.9 110.4 117.2 119.0 119.4 154.0

500 90.2 93.0 93.5 94.3 94.9 97.7 100.1 104.0 110.2 118.1 120.2 118.6 154.5

630 91.8 94.3 94.6 95.2 96.2 98.4 101.5 105.7 110.9 120.4 122.3 119.7 156.4

800 95.5 95.0 95.5 96.3 97.1 100.0 101.9 105.3 111.6 120.3 121.5 119.8 155.9

1000 100.2 100.0 99.0 99.1 99.7 100.8 102.1 103.6 112.0 120.1 122.0 118.2 156.1

1250 98.5 103.3 102.6 102.8 102.4 102.5 103.9 107.1 112.7 120.1 122.0 118.2 156.1

1600 102.5 100.3 100.6 100.9 101.0 102.8 105.3 108.0 113.4 119.8 121.6 116.7 152.0

2000 105.2 104.8 102.7 101.4 100.7 102.6 104.2 107.9 113.3 120.2 119.8 114.4 154.9

2500 103.9 104.7 104.2 105.0 102.8 103.2 105.0 108.3 112.8 119.6 117.9 112.5 154.1

3150 102.3 103.6 103.3 104.4 104.9 105.5 104.9 108.4 113.2 118.1 117.2 111.9 153.4

4000 101.0 102.2 101.8 103.6 106.1 106.5 109.3 112.1 116.7 115.2 106.6 106.6 152.4

5000 98.9 100.5 100.7 101.7 104.6 106.5 108.8 111.9 116.0 114.3 109.3 105.7 151.8

6300 98.0 100.5 99.9 100.9 102.8 104.3 105.3 108.7 111.2 114.3 113.4 109.2 151.1

8000 96.1 98.7 99.2 100.1 100.4 103.9 105.3 107.7 109.9 114.0 111.6 108.0 150.5

10000 95.6 97.5 98.5 99.5 100.8 103.0 106.5 109.3 111.2 106.9 103.8 149.9

12500 93.2 95.6 97.2 97.9 99.2 101.2 102.2 104.4 107.6 110.2 108.8 105.3 148.8

16000 91.0 94.1 95.1 95.7 96.8 99.0 99.9 103.4 105.7 108.0 106.4 102.4 148.1

20000 88.8 91.4 92.0 93.9 94.7 96.5 98.1 99.9 103.9 105.9 104.0 100.9 147.6

25000 86.4 89.4 89.8 91.9 93.6 95.1 96.3 98.5 100.2 101.7 99.8 98.5 146.5

31500 80.0 85.1 86.1 88.6 89.3 91.3 91.9 93.5 97.0 99.3 97.6 94.4 146.6

40000 75.8 81.1 82.0 82.8 85.2 87.4 88.7 90.3 95.3 97.3 96.9 91.2 148.4

50000 71.6 79.2 77.2 79.9 83.7 84.5 85.9 88.2 92.4 97.1 93.3 87.0 151.2

63000 65.8 79.8 73.7 81.1 76.8 80.7 81.3 83.2 92.4 97.1 93.3 87.0 155.6

80000 62.6 83.4 72.0 83.2 72.9 79.0 78.7 80.7 91.7 96.1 92.8 83.8 161.6

GASPL 112.1 113.2 112.7 113.4 113.7 115.4 116.7 119.7 124.2 130.5 131.4 128.8 168.2

PWL 126.3 127.4 126.0 126.8 127.3 129.4 129.8 132.7 137.0 142.5 142.3 138.6 135.3

DBA 183.8 203.6 192.7 203.5 194.1 199.8 199.8 201.6 212.3 216.7 213.4 204.7 192.8

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH092 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFID = 3 MODEL = 3
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 81.00 MIKE HT = 29.50 RELHUM = 68.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFID = ARC NBFR =

FNINI = LBS XNL RPM XNHR = RPM V8 = 2351.6 FPS AEB = 25.3 SQ IN
FNRAMB = LBS XNL RPM XNHR = RPM V8 = 2351.6 FPS AEB = 25.3 SQ IN

RUNPT = 81F-ZER-0303 TAPE = X0303F TEST PT NO = 0303 NC = 863 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - BIF-ZER-0303 X03031

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 68.1 71.6 73.5 74.7 75.5 79.5 81.7 85.2 90.9 96.7 97.1 94.8 88.9 171.5

63 68.2 72.5 74.1 75.6 76.6 79.6 81.8 85.3 90.8 97.6 98.2 94.4 87.9 171.9

80 69.7 73.8 75.2 76.4 77.9 80.2 83.2 86.9 91.5 99.9 100.2 95.4 89.4 173.8

100 73.3 74.4 76.0 77.5 78.8 81.8 83.5 86.5 92.1 99.7 99.3 95.0 87.9 173.4

125 77.9 79.3 79.4 80.2 81.2 82.5 84.5 87.4 93.0 99.4 99.7 94.3 88.0 173.6

160 76.0 82.4 82.8 83.8 83.9 84.1 85.4 88.1 93.0 99.3 99.5 93.4 85.5 173.5

200 79.8 80.7 81.7 82.2 82.2 82.2 83.6 86.6 93.4 98.7 98.9 91.6 83.0 173.1

250 82.1 83.5 82.6 82.0 81.8 83.8 85.3 88.5 93.1 98.8 96.7 88.8 80.3 172.4

315 80.4 83.0 83.8 85.4 83.7 84.2 85.9 88.6 92.3 97.9 94.5 86.4 78.1 171.5

400 78.3 81.5 82.5 84.4 85.5 86.2 85.4 88.4 92.4 96.0 93.3 85.2 75.9 170.9

500 76.5 79.8 80.6 82.5 83.8 86.5 86.7 89.0 90.9 94.2 90.8 83.7 74.2 169.8

630 73.9 77.6 79.3 81.2 82.9 84.8 86.5 88.3 90.4 93.2 89.3 81.2 72.2 169.2

800 72.6 77.2 78.1 80.1 82.5 84.2 85.0 87.9 89.5 91.1 88.0 80.4 70.5 168.5

1000 70.2 75.2 79.1 83.7 83.7 84.8 86.7 87.9 87.9 85.8 85.8 78.6 68.1 167.9

1250 69.2 73.6 76.3 78.3 80.2 82.7 83.3 87.1 88.0 84.8 76.6 66.6 167.3

1600 66.0 71.2 74.5 76.4 78.4 80.6 81.3 82.9 84.9 85.8 81.6 73.6 61.3 166.3

2000 62.8 69.0 72.0 74.0 75.8 78.3 78.9 81.7 82.7 83.0 78.2 69.1 56.1 165.6

2500 58.8 65.1 68.1 71.5 73.1 75.2 76.5 77.5 80.0 79.6 74.0 64.9 49.2 165.1

3150 51.1 59.7 63.6 65.8 69.0 72.4 73.3 72.2 74.4 73.0 66.4 57.5 35.5 163.9

4000 40.4 51.6 55.5 58.8 62.7 65.7 66.0 66.3 67.4 65.9 58.0 44.4 16.9 164.0

5000 26.5 40.1 46.2 50.1 54.3 57.0 57.8 59.4 56.3 47.5 27.5 0.8 168.6

6300 4.4 24.0 29.2 36.5 38.9 43.5 43.5 45.3 42.3 27.7 0.8 173.0

8000 173.0 179.0

10000 173.0 179.0

12500 173.0 179.0

16000 173.0 179.0

20000 173.0 179.0

25000 173.0 179.0

31500 173.0 179.0

40000 173.0 179.0

50000 173.0 179.0

63000 173.0 179.0

80000 173.0 179.0

QASPL 88.4 91.1 91.8 93.2 93.9 95.7 96.9 99.6 103.4 109.1 108.5 103.2 96.4 185.4

PNL 92.9 96.1 97.5 99.3 100.6 102.4 103.4 105.7 108.7 112.6 110.6 103.6 95.5

PNLT 93.5 96.7 97.5 99.3 100.6 102.4 103.4 105.7 108.7 113.2 111.7 104.7 95.5

DBA 82.1 85.5 86.9 88.7 90.0 92.2 93.0 95.2 97.5 100.6 97.9 90.5 81.8

MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/CONT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH092 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = 3

IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 81.00 PAMB HG = 29.50

WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = 29.50

FNIN1 = LBS XNL RPM XNH RPM V8 = 2351.6 FPS AEB = 25.3 SQ IN

FNRAMB = LBS XNLR RPM XNHR RPM V18 = 863 CORR FAN SPEED = 0. FPS

RUNPT = ZER-0303 TAPE = X03031 TEST PT NO = 0303 NC = 863

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-0304
BACKGROUND 81F-400-0300 X03000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.
PWL

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 87.2 | 85.7 | 81.8 | 82.2 | 81.8 | 82.6 | 83.3 | 86.3 | 113.9 | 94.0 | 95.1 | 95.0 | 98.2 | 145.4 |
| 63 | 88.6 | 87.8 | 88.5 | 88.2 | 88.5 | 89.8 | 88.5 | 89.8 | 105.3 | 100.2 | 99.0 | 99.0 | 139.4 | |
| 80 | 90.4 | 95.2 | 89.3 | 90.8 | 91.6 | 94.5 | 94.0 | 93.6 | 104.3 | 93.3 | 96.0 | 98.6 | 100.8 | 138.9 |
| 100 | 90.0 | 94.8 | 90.0 | 91.6 | 92.9 | 93.6 | 95.5 | 96.4 | 102.5 | 96.1 | 97.8 | 102.5 | 103.8 | 139.5 |
| 125 | 87.3 | 88.8 | 90.4 | 92.4 | 93.0 | 94.6 | 95.8 | 95.4 | 101.8 | 98.7 | 104.8 | 107.3 | 108.2 | 142.1 |
| 160 | 85.7 | 83.9 | 86.6 | 87.9 | 89.7 | 91.9 | 91.9 | 92.8 | 100.3 | 100.1 | 104.8 | 107.5 | 110.1 | 142.2 |
| 200 | 85.3 | 85.6 | 85.9 | 86.1 | 88.5 | 91.0 | 91.9 | 94.8 | 100.8 | 100.8 | 105.9 | 110.2 | 112.1 | 143.9 |
| 250 | 84.7 | 87.5 | 87.7 | 90.0 | 90.4 | 91.8 | 94.4 | 98.1 | 102.1 | 108.4 | 112.0 | 114.5 | 113.6 | 148.0 |
| 315 | 84.6 | 87.5 | 87.2 | 88.8 | 89.7 | 93.6 | 95.7 | 98.4 | 102.0 | 109.7 | 112.8 | 115.5 | 113.2 | 148.7 |
| 400 | 87.3 | 88.6 | 88.8 | 89.9 | 91.0 | 94.6 | 97.2 | 100.7 | 101.6 | 114.4 | 116.6 | 111.7 | 151.1 | |
| 500 | 86.7 | 89.7 | 89.7 | 90.7 | 91.0 | 92.6 | 95.5 | 97.9 | 102.0 | 102.2 | 115.6 | 117.7 | 116.1 | 109.3 |
| 630 | 88.5 | 90.8 | 91.4 | 92.4 | 93.2 | 95.6 | 99.2 | 102.9 | 101.9 | 116.9 | 119.8 | 116.2 | 106.9 | 153.0 |
| 800 | 90.7 | 91.0 | 91.2 | 92.5 | 94.4 | 96.7 | 98.6 | 102.0 | 102.9 | 116.8 | 120.2 | 114.1 | 103.5 | 152.9 |
| 1000 | 95.5 | 96.5 | 95.3 | 95.3 | 95.4 | 97.8 | 99.9 | 103.6 | 102.8 | 117.1 | 119.7 | 113.4 | 103.6 | 152.7 |
| 1250 | 95.0 | 99.3 | 97.6 | 97.6 | 97.9 | 99.0 | 100.7 | 104.1 | 103.7 | 117.1 | 120.3 | 112.7 | 102.9 | 153.0 |
| 1600 | 102.0 | 99.8 | 98.3 | 98.1 | 98.7 | 100.6 | 102.6 | 105.0 | 104.1 | 117.0 | 120.4 | 111.5 | 102.7 | 153.1 |
| 2000 | 103.4 | 105.3 | 102.2 | 99.9 | 98.5 | 99.8 | 102.2 | 105.6 | 104.3 | 117.9 | 118.8 | 110.6 | 102.9 | 152.8 |
| 2500 | 100.7 | 102.2 | 102.5 | 103.8 | 101.8 | 100.7 | 102.5 | 105.5 | 104.5 | 116.8 | 116.4 | 109.2 | 102.0 | 151.4 |
| 3150 | 99.3 | 100.6 | 99.8 | 101.6 | 103.2 | 104.8 | 103.1 | 105.4 | 105.2 | 115.6 | 116.0 | 107.4 | 99.5 | 150.8 |
| 4000 | 98.0 | 99.0 | 99.3 | 99.5 | 100.4 | 103.8 | 105.0 | 106.5 | 105.1 | 113.7 | 113.5 | 106.2 | 99.4 | 149.3 |
| 5000 | 95.4 | 97.5 | 97.2 | 99.0 | 99.9 | 101.4 | 104.3 | 106.3 | 104.9 | 113.8 | 112.3 | 104.8 | 98.2 | 148.9 |
| 6300 | 96.0 | 97.7 | 96.6 | 97.9 | 99.6 | 101.8 | 103.5 | 106.2 | 105.8 | 111.9 | 111.7 | 104.5 | 97.6 | 148.2 |
| 8000 | 94.3 | 96.7 | 96.9 | 97.4 | 101.2 | 102.8 | 105.7 | 105.0 | 105.7 | 110.2 | 109.4 | 103.8 | 97.6 | 147.6 |
| 10000 | 93.3 | 95.2 | 95.8 | 96.5 | 97.8 | 100.5 | 105.0 | 105.0 | 105.3 | 110.2 | 108.7 | 102.9 | 96.6 | 147.4 |
| 12500 | 92.5 | 94.4 | 94.7 | 94.7 | 96.3 | 98.8 | 100.2 | 103.0 | 104.4 | 108.3 | 107.9 | 101.8 | 95.1 | 146.8 |
| 16000 | 90.1 | 92.9 | 92.9 | 92.5 | 94.1 | 96.8 | 98.2 | 101.7 | 103.8 | 106.1 | 104.0 | 100.2 | 93.6 | 146.1 |
| 20000 | 87.7 | 89.0 | 90.6 | 91.0 | 92.0 | 94.8 | 96.7 | 98.0 | 102.4 | 103.8 | 102.6 | 98.5 | 91.5 | 145.8 |
| 25000 | 84.3 | 87.8 | 87.5 | 87.7 | 89.8 | 92.2 | 94.2 | 94.8 | 98.9 | 99.8 | 98.6 | 95.4 | 87.4 | 144.7 |
| 31500 | 80.4 | 84.0 | 84.0 | 84.5 | 86.0 | 89.7 | 91.0 | 91.4 | 95.5 | 97.0 | 95.7 | 91.5 | 83.8 | 144.7 |
| 40000 | 75.6 | 80.1 | 80.6 | 81.0 | 82.7 | 86.1 | 87.5 | 88.3 | 92.8 | 93.3 | 93.4 | 87.7 | 79.2 | 145.5 |
| 50000 | 71.3 | 75.5 | 75.7 | 76.7 | 77.7 | 82.7 | 82.3 | 82.7 | 90.0 | 91.9 | 90.4 | 82.1 | 72.9 | 146.9 |
| 63000 | 65.1 | 74.2 | 70.6 | 80.4 | 74.3 | 78.8 | 78.9 | 79.6 | 88.5 | 89.8 | 89.0 | 77.8 | 69.0 | 150.3 |
| 80000 | 61.1 | 76.2 | | 82.7 | | 79.8 | 73.7 | 73.9 | 88.4 | 90.6 | 87.5 | 71.1 | 65.4 | 156.9 |

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NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICLE = ADH111 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = 3 FLTVL = 400. FPS
IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 82.50 PAMB HG = 29.40 RELHUM = 64.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2350.2 FPS AEB = 25.3 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2350.2 FPS AE18 = 0. SQ IN

RUNPT = 81F-400-0304 TAPE = X0304C TEST PT NO = 0304 NC = 863 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-0304 X0304F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

FREQ

50

63

80

100

125

150

226

200 250 315 400 500 630 800 1000

1250 1600 2000 2500 3150 4000 5000 6300 8000 10000 12500 16000 20000 25000 31500 40000 50000 63000 80000

144.7 110.6 111.1 107.9 105.3 98.5 94.5 92.5 91.8 92.0 93.3 92.6 93.9 92.6 93.3 91.5 93.8 94.4 95.6 99.8 112.2 114.2 115.2 113.0 149.4

150.0 150.0 115.3 116.1 117.5 114.4 99.8 99.9 99.8 99.9 100.1 113.1 115.3 112.1 150.0

151.4 151.4 111.7 111.7 115.2 114.4 99.8 99.9 99.8 99.9 100.1 113.1 115.3 112.1 151.4

151.6 151.6 110.9 110.9 114.6 114.6 101.0 101.0 101.0 101.0 101.0 114.6 114.6 110.9 151.6

152.6 152.6 113.8 113.8 115.7 115.7 99.8 99.8 99.8 99.8 99.8 115.7 115.7 113.8 152.6

152.7 152.7 113.2 113.2 119.5 119.5 101.6 101.6 101.6 101.6 101.6 119.5 119.5 113.2 152.7

152.8 152.8 113.1 113.1 115.8 115.8 102.2 102.2 102.2 102.2 102.2 115.8 115.8 113.1 152.8

152.1 152.1 112.2 112.2 116.5 116.5 105.4 105.4 105.4 105.4 105.4 116.5 116.5 112.2 152.1

151.4 151.4 110.9 110.9 114.7 114.7 106.1 106.1 106.1 106.1 106.1 114.7 114.7 110.9 151.4

150.3 150.3 109.0 109.0 112.2 112.2 106.4 106.4 106.4 106.4 106.4 112.2 112.2 109.0 150.3

149.9 149.9 108.2 108.2 110.6 110.6 106.8 106.8 106.8 106.8 106.8 110.6 110.6 108.2 149.9

149.6 149.6 109.3 109.3 109.6 109.6 106.8 106.8 106.8 106.8 106.8 109.6 109.6 109.3 149.6

148.7 148.7 107.6 107.6 107.1 107.1 106.4 106.4 106.4 106.4 106.4 107.1 107.1 107.6 148.7

148.4 148.4 105.3 105.3 105.9 105.9 106.4 106.4 106.4 106.4 106.4 105.9 105.9 105.3 148.4

147.4 147.4 102.4 102.4 103.0 103.0 102.6 102.6 102.6 102.6 102.6 103.0 103.0 102.4 147.4

147.1 147.1 99.3 99.3 99.5 99.5 97.7 97.7 97.7 97.7 97.7 99.5 99.5 99.3 147.1

148.3 148.3 87.6 87.6 89.9 89.9 95.2 95.2 96.4 96.4 96.4 89.9 89.9 87.6 148.3

150.9 150.9 84.7 84.7 86.6 86.6 94.7 94.7 95.2 95.2 95.2 86.6 86.6 84.7 150.9

155.0 155.0 72.8 72.8 71.5 71.5 84.9 84.9 87.7 87.7 86.0 73.9 73.9 86.0 155.0

156.8 156.8 82.6 82.6 81.3 81.3 94.7 94.7 95.8 95.8 95.8 81.3 81.3 94.7 156.8

155.4 155.4 124.3 124.3 125.7 125.7 128.7 128.7 126.7 126.7 117.6 117.6 126.7 128.7 155.4

135.6 135.6 135.8 135.8 139.5 139.5 138.3 138.3 139.5 139.5 129.1 129.1 138.3 139.5 135.6

135.6 135.6 135.8 135.8 139.5 139.5 138.3 138.3 139.5 139.5 129.1 129.1 138.3 139.5 135.6

136.6 136.6 135.8 135.8 139.5 139.5 138.3 138.3 139.5 139.5 129.1 129.1 138.3 139.5 136.6

136.6 136.6 135.8 135.8 139.5 139.5 138.3 138.3 139.5 139.5 129.1 129.1 138.3 139.5 136.6

136.6 136.6 135.8 135.8 139.5 139.5 138.3 138.3 139.5 139.5 129.1 129.1 138.3 139.5 136.6

136.6 136.6 135.8 135.8 139.5 139.5 138.3 138.3 139.5 139.5 129.1 129.1 138.3 139.5 136.6

136.6 136.6 135.8 135.8 139.5 139.5 138.3 138.3 139.5 139.5 129.1 129.1 138.3 139.5 136.6

136.6 136.6 135.8 135.8 139.5 139.5 138.3 138.3 139.5 139.5 129.1 129.1 138.3 139.5 136.6

136.6 136.6 135.8 135.8 139.5 139.5 138.3 138.3 139.5 139.5 129.1 129.1 138.3 139.5 136.6

136.6 136.6 135.8 135.8 139.5 139.5 138.3 138.3 139.5 139.5 129.1 129.1 138.3 139.5 136.6

136.6 136.6 135.8 135.8 139.5 139.5 138.3 138.3 139.5 139.5 129.1 129.1 138.3 139.5 136.6

136.6 136.6 135.8 135.8 139.5 139.5 138.3 138.3 139.5 139.5 129.1 129.1 138.3 139.5 136.6

136.6 136.6 135.8 135.8 139.5 139.5 138.3 138.3 139.5 139.5 129.1 129.1 138.3 139.5 136.6

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-0305 X0305C

BACKGROUND 81F-400-0300

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 85.2 84.2 83.0 81.8 81.9 85.5 85.6 87.8 90.4 94.1 94.4 94.6 95.3 131.7

63 88.2 87.8 88.3 88.1 89.4 93.0 92.2 92.6 93.6 101.4 99.0 98.7 99.3 137.0

80 90.5 96.1 91.3 91.1 92.0 94.8 95.5 94.4 96.0 95.7 97.5 100.0 101.6 137.6

100 90.6 96.3 92.1 93.7 94.2 95.6 96.5 97.7 97.0 98.7 100.3 104.0 105.2 140.0

125 87.1 89.4 90.7 92.4 93.5 96.2 96.8 96.7 97.3 101.0 106.4 108.0 109.0 142.7

150 86.3 87.3 89.8 90.4 91.5 95.6 95.5 97.9 102.3 104.6 108.5 112.7 114.4 146.5

200 88.8 87.6 89.6 90.4 91.5 95.6 95.5 97.9 102.3 104.6 108.5 112.7 114.4 150.7

250 88.5 91.8 92.1 93.9 94.0 95.1 97.7 100.6 105.6 111.1 115.0 116.7 116.4 150.7

315 88.3 91.4 91.6 91.9 93.8 97.4 99.3 101.9 106.5 113.4 115.3 117.8 116.7 151.6

400 90.6 92.4 93.1 93.9 94.0 97.6 100.5 104.4 110.9 117.9 119.1 119.5 116.2 154.4

500 90.4 93.2 93.0 94.5 95.4 97.7 100.6 104.5 110.2 118.3 120.2 119.9 116.3 154.9

630 92.1 94.1 94.4 95.9 96.5 98.6 101.5 105.2 110.4 120.2 121.8 120.1 116.6 156.3

800 92.1 94.1 94.4 95.9 96.5 98.6 101.5 105.2 110.4 120.2 121.8 120.1 116.6 156.3

1000 99.2 104.3 103.3 103.6 103.4 103.0 103.9 107.1 113.2 120.1 122.5 119.4 114.2 156.5

1250 103.0 101.1 101.6 101.4 101.5 103.1 103.3 108.2 113.4 120.0 122.4 117.5 115.6 156.1

1500 103.0 101.1 101.6 101.4 101.5 103.1 103.3 108.2 113.4 120.0 122.4 117.5 115.6 156.1

2000 106.2 105.8 103.2 101.9 101.2 103.6 103.5 108.3 113.0 120.1 117.9 114.2 109.0 154.5

2500 104.4 105.5 105.2 105.3 103.6 103.5 105.5 108.3 113.0 120.1 117.9 114.2 109.0 154.5

3150 103.0 104.1 105.1 105.7 106.3 105.9 108.4 113.7 118.6 117.5 112.9 107.5 153.9

4000 101.5 102.2 102.8 103.8 103.9 106.8 106.7 109.3 112.8 117.2 115.7 111.4 107.4 152.9

5000 99.6 101.2 101.2 102.5 103.2 104.9 106.8 108.8 111.9 115.8 114.0 110.1 106.2 151.8

6300 98.8 101.2 100.6 101.4 102.8 104.8 106.5 108.7 111.2 114.6 113.7 109.7 104.8 151.3

8000 96.8 99.4 100.6 101.1 103.7 104.3 105.3 107.2 109.8 112.4 111.2 107.4 103.5 150.3

10000 96.1 98.5 99.0 100.3 100.8 103.3 104.3 107.2 109.8 112.4 111.2 107.4 103.5 150.3

12500 94.5 96.6 97.9 98.7 99.7 102.2 102.4 104.9 108.1 110.5 109.8 105.3 101.3 149.4

15000 91.3 94.6 95.6 96.2 97.3 100.0 100.9 103.7 105.7 106.3 106.4 103.1 98.9 148.4

20000 89.1 92.4 93.0 94.1 95.5 99.1 100.4 102.9 106.2 104.2 100.7 96.4 147.8

25000 85.5 89.6 90.1 90.5 92.2 95.8 96.3 99.9 100.5 103.2 100.5 98.8 91.8 147.2

31500 80.5 85.8 85.6 87.1 88.6 92.0 93.1 93.8 97.5 101.1 98.3 95.1 88.2 147.6

40000 76.1 81.6 82.3 83.5 85.5 89.1 89.3 90.3 93.8 97.5 97.1 92.4 85.7 148.9

50000 71.8 79.2 80.7 80.9 86.4 85.5 86.7 93.2 98.0 95.6 90.1 80.6 151.8

63000 66.6 79.6 74.4 81.1 85.0 82.5 84.0 92.9 97.3 94.9 86.5 78.7 156.3

80000 62.8 82.8 73.0 83.2 85.3 79.4 81.2 91.2 95.9 93.8 85.5 76.7 161.8

QASPL 112.7 113.9 113.4 113.9 114.1 115.9 117.1 119.9 124.3 130.7 131.6 129.6 126.6 168.6

PWL 125.8 127.0 126.7 127.4 127.8 129.3 130.2 132.9 137.2 142.8 142.5 139.6 135.6

DBA 113.2 114.1 113.6 114.0 114.0 115.4 116.7 119.5 124.1 130.5 131.2 128.3 124.3

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH093 TEST DATE = 09-01-81 LOCAL = C41 ANECH CH CONFIG = 3 MODEL = 3 FLTVL = 0. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE EXT DIST = 40.0 FT TAMB F = 81.00 PAMB HG = 29.45 RELHUM = 68.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH RPM XNHR = V8 = 2375.5 FPS AEG = 25.3 SO IN
FNRAMB = LBS XNLR RPM XNHR = V18 = 2375.5 FPS AE18 = 0. SO IN
RUNPT = 81 ER-0305 TAPE = X0305C TEST PT NO = 0305 NC = 863 CORR FAN SPEED = RPM

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IDENTIFICATION - 81F-ZER-0305 X0305F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 85.2 84.2 83.0 81.8 81.9 85.5 85.6 87.8 90.4 94.1 94.4 94.6 95.3 131.7

63 88.2 87.8 88.3 88.1 89.4 93.0 92.2 92.6 93.6 101.4 99.0 98.7 98.3 137.0

80 90.5 96.1 91.3 91.1 92.0 94.8 95.5 94.4 96.0 95.7 97.5 100.0 101.6 137.6

100 90.6 96.3 92.1 93.7 94.2 95.6 96.5 97.7 97.0 98.7 100.3 104.0 105.2 140.0

125 87.1 89.4 90.7 92.4 93.5 96.2 96.8 96.7 97.3 101.0 106.4 109.0 142.7

160 86.3 87.3 89.8 90.4 90.2 91.6 94.7 95.6 97.8 102.9 107.5 109.7 144.1

200 88.8 87.6 89.6 90.4 91.5 95.6 95.5 97.9 102.3 104.6 108.5 112.7 144.4

250 88.5 91.8 92.1 93.9 94.0 95.1 97.7 100.6 105.6 111.1 115.0 116.7 150.7

315 88.3 91.4 91.6 93.8 94.0 95.3 97.4 99.3 101.9 106.5 113.4 117.8 151.6

400 90.6 92.4 93.1 93.9 94.0 97.6 100.5 104.4 110.9 117.9 119.5 116.2 154.4

500 90.4 93.2 93.0 94.5 95.4 97.7 100.6 104.5 110.2 118.3 120.2 119.9 154.9

630 92.1 94.1 94.4 95.9 96.5 98.6 101.5 105.2 110.4 120.2 121.8 120.5 156.3

800 95.0 96.5 96.8 98.6 99.0 101.0 103.4 106.1 111.6 120.3 122.0 119.7 156.3

1000 100.5 101.3 99.8 100.1 99.4 101.0 103.4 106.1 111.6 120.3 122.0 119.7 156.3

1250 99.2 104.3 103.3 103.6 103.4 103.0 103.9 107.1 113.2 120.1 122.5 119.4 156.5

1600 103.0 101.1 101.6 101.4 101.5 103.1 103.3 108.2 113.4 120.0 122.4 117.5 156.1

2000 106.2 105.8 103.2 101.9 101.2 103.1 104.7 108.4 113.3 120.9 120.3 115.6 155.6

2500 104.4 105.5 105.2 105.3 103.6 103.5 105.5 108.3 113.0 120.1 117.9 114.2 154.5

3150 103.0 104.1 104.1 105.1 105.7 106.3 105.9 108.4 113.7 118.6 117.5 112.9 153.9

4000 101.5 102.2 102.8 103.8 103.9 104.6 106.7 109.3 112.8 115.7 114.0 107.4 152.9

5000 99.6 101.2 101.2 102.5 103.2 104.9 106.8 108.6 111.9 115.8 114.0 110.1 151.8

6300 98.8 101.2 100.6 101.4 102.8 104.8 106.5 108.7 111.2 114.6 113.7 109.7 151.3

8000 96.8 98.4 99.7 100.6 101.1 103.7 105.3 108.7 111.4 114.0 108.3 104.6 150.7

10000 96.1 98.5 99.0 100.3 100.8 103.3 104.1 109.2 109.6 112.4 111.2 107.4 150.3

12500 94.5 96.6 96.7 99.7 99.7 102.2 102.4 104.9 108.1 110.5 109.8 105.3 149.4

16000 91.3 94.6 95.6 96.2 97.3 100.0 100.9 103.7 105.7 108.3 106.4 103.1 148.4

20000 89.1 92.4 93.0 94.1 95.5 97.5 99.1 100.4 102.9 105.9 103.2 100.7 147.8

25000 85.5 89.6 90.1 90.5 92.2 95.8 96.3 96.9 100.5 103.2 100.5 98.8 147.2

31500 80.5 85.8 85.6 87.1 88.6 92.0 93.1 93.8 97.5 101.1 98.3 95.1 147.6

40000 76.1 81.6 82.3 83.5 85.5 89.1 89.3 90.3 95.8 97.1 92.4 85.7 148.9

50000 71.8 79.2 78.2 80.7 80.9 86.4 85.5 86.7 93.2 98.0 95.6 90.1 151.8

63000 66.6 79.6 79.6 81.1 81.1 85.0 82.5 84.0 92.9 97.3 94.9 86.5 156.3

80000 62.8 82.8 82.9 83.0 83.2 85.3 79.4 81.2 91.2 95.9 93.8 85.5 161.8

GASPL 112.7 113.9 113.4 113.9 114.1 115.9 117.1 119.9 124.3 130.7 131.6 129.6 126.6 168.6

PNL 125.8 127.0 126.7 127.4 127.8 129.3 130.2 132.9 137.2 142.8 142.5 139.6 135.6

DBA 184.1 203.1 193.7 203.5 195.5 205.8 200.4 202.1 211.9 216.5 214.4 206.2 197.4

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/COUNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH093 TEST DATE = 09-01-81 LGCAT = C41 ANECH CH CNFIG = 3 MODEL = 3 FLTVEL = 0. FPS
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 81.00 PAMB HG = 29.45 RELHUM = 68.7 PCT
WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBFR

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-0305 X03051

ANGLES MEASURED FROM INLET, DEGREES

| | | | | | | | | | | | | | | |
|---|---|------|------|------|------|------|------|------|------|------|-------|------|-------|-------|
| 230 | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL |
| FREQ | 68.6 | 71.9 | 73.7 | 75.2 | 75.7 | 79.5 | 82.2 | 85.7 | 91.4 | 97.5 | 97.1 | 95.3 | 88.6 | 171.8 |
| 50 | 66.6 | 71.9 | 73.7 | 75.2 | 75.7 | 79.5 | 82.2 | 85.7 | 91.4 | 97.5 | 97.1 | 95.3 | 88.6 | 171.8 |
| 63 | 68.4 | 72.7 | 73.6 | 75.8 | 77.1 | 79.6 | 82.3 | 85.8 | 90.8 | 97.8 | 98.2 | 95.6 | 88.7 | 172.3 |
| 80 | 70.0 | 73.6 | 74.9 | 77.2 | 78.2 | 80.4 | 83.2 | 86.4 | 91.0 | 99.6 | 99.7 | 96.2 | 89.7 | 173.7 |
| 100 | 73.8 | 74.4 | 76.2 | 77.8 | 79.5 | 81.8 | 83.5 | 86.8 | 92.1 | 99.7 | 99.8 | 95.7 | 88.7 | 173.7 |
| 125 | 78.2 | 80.6 | 80.2 | 81.2 | 81.0 | 82.7 | 85.0 | 87.2 | 93.3 | 99.7 | 99.4 | 95.1 | 88.0 | 173.7 |
| 160 | 76.8 | 83.4 | 83.6 | 84.6 | 84.9 | 84.6 | 85.4 | 88.1 | 93.5 | 99.3 | 100.0 | 94.6 | 85.7 | 173.9 |
| 200 | 80.3 | 80.0 | 81.7 | 82.2 | 82.7 | 84.5 | 86.6 | 89.1 | 93.4 | 98.9 | 99.7 | 92.3 | 83.3 | 173.6 |
| 250 | 83.1 | 84.5 | 83.1 | 82.5 | 82.3 | 84.3 | 85.8 | 89.0 | 93.1 | 99.6 | 97.2 | 90.0 | 80.3 | 173.0 |
| 315 | 80.9 | 83.8 | 84.8 | 85.6 | 84.4 | 86.4 | 88.6 | 92.5 | 98.4 | 94.5 | 88.1 | 78.6 | 172.0 | |
| 400 | 79.0 | 82.0 | 83.3 | 85.1 | 86.2 | 86.9 | 86.4 | 88.4 | 92.9 | 96.5 | 93.5 | 86.2 | 171.3 | |
| 500 | 77.9 | 81.6 | 83.5 | 84.1 | 87.2 | 86.9 | 86.0 | 89.0 | 91.7 | 94.7 | 91.3 | 84.0 | 170.3 | |
| 630 | 74.7 | 78.3 | 79.8 | 81.9 | 83.1 | 85.0 | 86.7 | 88.3 | 90.4 | 92.9 | 89.1 | 82.0 | 169.2 | |
| 800 | 73.3 | 78.0 | 78.9 | 80.6 | 82.5 | 84.7 | 86.2 | 87.9 | 89.5 | 91.4 | 88.2 | 80.9 | 168.8 | |
| 1000 | 71.0 | 75.9 | 77.7 | 79.6 | 80.7 | 83.4 | 84.8 | 87.7 | 88.4 | 90.5 | 85.5 | 78.8 | 168.1 | |
| 1250 | 69.7 | 74.6 | 76.8 | 79.1 | 80.2 | 82.9 | 83.6 | 86.0 | 87.6 | 88.5 | 84.8 | 77.1 | 167.7 | |
| 1600 | 67.3 | 72.2 | 75.2 | 77.2 | 78.9 | 81.6 | 83.4 | 85.4 | 86.0 | 82.6 | 73.6 | 61.8 | 166.8 | |
| 2000 | 63.1 | 69.5 | 72.5 | 74.5 | 76.3 | 79.3 | 79.9 | 82.0 | 82.7 | 78.2 | 64.6 | 49.0 | 165.2 | |
| 2500 | 59.1 | 66.1 | 69.1 | 71.7 | 73.9 | 76.2 | 77.5 | 78.0 | 79.0 | 79.9 | 74.2 | 64.6 | 165.0 | |
| 3150 | 52.1 | 60.9 | 64.3 | 66.6 | 69.2 | 73.2 | 73.3 | 73.0 | 74.7 | 74.5 | 67.2 | 57.7 | 164.6 | |
| 4000 | 40.9 | 52.4 | 56.0 | 59.8 | 62.7 | 66.5 | 67.2 | 66.5 | 67.9 | 67.6 | 58.7 | 45.1 | 165.0 | |
| 5000 | 26.7 | 40.6 | 46.4 | 50.8 | 54.6 | 58.8 | 58.3 | 57.6 | 59.9 | 56.5 | 47.7 | 28.7 | 166.3 | |
| 6300 | 4.7 | 30.3 | 37.2 | 39.9 | 46.2 | 44.5 | 43.2 | 45.3 | 42.8 | 28.4 | 2.3 | | 169.3 | |
| 8000 | | | | | | | | | | | | | 173.7 | |
| | | | | | | | | | | | | | 179.3 | |
| MODEL AREA = 163.1 SQ CM (25.3 SQ IN) | SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) | | | | | | | | | | | | | |
| DIAMETER RATIO = 7.442 FREQ SHIFT = -9 | | | | | | | | | | | | | | |
| NASA SHOCK CELL/COUNT. CONV. ANN. PLUG NGZ. SC-3/NAS3-22514 | | | | | | | | | | | | | | |
| VEHICLE | ADH093 | | | | | | | | | | | | | |
| TEST DATE | 09-01-81 | | | | | | | | | | | | | |
| LOCAL | C41 ANECH CH | | | | | | | | | | | | | |
| CONFIG | 3 | | | | | | | | | | | | | |
| MODEL | 3 | | | | | | | | | | | | | |
| FLIVEL | 0. FPS | | | | | | | | | | | | | |
| RELHUM | 68.7 PCT | | | | | | | | | | | | | |
| WIND DIR | DEG | | | | | | | | | | | | | |
| WIND VEL | MPH | | | | | | | | | | | | | |
| EXT DIST | 2400.0 FT | | | | | | | | | | | | | |
| PWL AREA | FULL SPHERE | | | | | | | | | | | | | |
| TAMB F | 81.00 | | | | | | | | | | | | | |
| EXT CONFIG | SL | | | | | | | | | | | | | |
| MIKE HT | 29.45 | | | | | | | | | | | | | |
| AE8 | 2375.5 FPS | | | | | | | | | | | | | |
| AE8 | 25.3 SQ IN | | | | | | | | | | | | | |
| 0. SQ IN | RPM | | | | | | | | | | | | | |
| V8 | RPM | | | | | | | | | | | | | |
| NC | = 863 | | | | | | | | | | | | | |
| CORR FAN SPEED | = | | | | | | | | | | | | | |
| RPM | = | | | | | | | | | | | | | |
| FNIN1 | LBS XNL | | | | | | | | | | | | | |
| FNINB | LBS XNL | | | | | | | | | | | | | |
| TEST PT NO = 030 | TEST PT NO = 030 | | | | | | | | | | | | | |
| FNINB | LBS XNL | | | | | | | | | | | | | |
| FNINB | LBS XNL | | | | | | | | | | | | | |
| FNINB | LBS XNL | | | | | | | | | | | | | |
| FNINB | LBS XNL | | | | | | | | | | | | | |
| FNINB | LBS XNL | | | | | | | | | | | | | |
| FNINB | LBS XNL | | | | | | | | | | | | | |
| FNINB | LBS XNL | | | | | | | | | | | | | |
| FNINB | LBS XNL | | | | | | | | | | | | | |
| FNINB | LBS XNL | | | | | | | | | | | | | |
| FNINB | LBS XNL | | | | | | | | | | | | | |
| FNINB | LBS XNL | | | | | | | | | | | | | |
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ORIGINAL PAGE 13
OF POOR QUALITY

230

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-0306 X0306C
BACKGROUND 81F-400-0300 X03000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 66.7 67.0 62.5 62.8 82.9 84.0 84.1 87.0 90.2 94.1 95.4 95.1 101.3 133.3
63 66.5 66.3 68.3 67.3 89.2 90.3 89.2 91.3 93.8 98.9 100.2 99.9 101.8 136.9
80 91.3 96.3 90.6 92.1 92.7 95.1 95.7 94.9 95.5 96.7 96.8 103.5 103.4 137.9
100 91.1 95.8 91.4 93.2 93.7 94.9 96.5 97.4 96.5 96.7 96.8 103.5 103.4 139.6
125 67.9 68.9 90.4 92.7 93.0 95.4 96.0 95.4 95.5 98.5 104.9 107.5 109.2 142.0
150 66.3 68.3 88.9 89.0 89.0 90.3 92.2 94.1 95.8 100.9 105.3 108.2 110.9 142.6
160 66.0 66.0 86.1 86.8 87.6 89.0 91.8 92.5 95.4 100.0 101.9 106.3 111.0 144.7
200 66.0 66.0 86.1 86.8 87.6 89.0 91.8 92.5 95.4 100.0 101.9 106.3 111.0 144.7
250 65.0 67.8 88.3 90.6 91.0 92.3 95.2 98.9 104.1 109.4 113.0 115.2 114.1 148.8
315 65.6 67.9 88.4 89.2 90.3 94.1 96.0 99.2 103.5 110.7 113.6 115.5 113.9 149.2
400 67.6 68.9 89.4 90.4 91.3 94.9 97.5 101.7 108.4 115.0 117.1 117.3 112.4 151.9
500 67.4 68.9 89.4 90.4 91.3 94.9 97.5 101.7 108.4 115.0 117.1 117.3 112.4 151.9
630 66.6 68.9 89.4 90.4 91.3 94.9 97.5 101.7 108.4 115.0 117.1 117.3 112.4 151.9
800 91.7 91.5 91.8 93.8 94.6 96.8 99.1 103.3 108.9 117.3 120.7 114.9 104.6 153.6
1000 96.0 96.3 95.3 96.1 95.9 97.8 100.4 103.6 105.5 107.5 110.6 114.5 113.8 153.7
1250 96.5 98.3 98.6 98.7 99.5 101.2 104.6 106.2 111.1 117.8 121.0 112.0 103.7 154.0
1500 102.8 100.8 98.6 98.7 99.5 101.2 104.6 106.2 111.1 117.8 121.0 112.0 103.7 154.1
2000 103.7 105.3 103.2 101.1 99.5 100.8 103.0 106.1 112.0 119.9 119.8 111.6 104.1 154.4
2500 100.7 102.2 102.7 104.3 102.1 101.7 103.1 106.5 111.3 118.3 117.9 109.7 103.0 153.0
3150 99.0 100.6 102.4 101.6 102.4 104.8 103.6 106.1 110.9 116.6 117.0 100.9 100.8 152.0
4000 97.5 98.7 99.5 100.0 100.4 103.6 105.5 107.5 110.8 115.5 114.5 106.9 99.9 150.9
5000 95.9 97.0 97.5 99.0 99.9 101.9 104.5 107.6 110.6 114.5 113.8 105.1 98.4 150.3
6300 96.0 97.6 98.1 99.6 102.0 103.8 107.7 112.4 112.5 112.5 112.5 97.6 149.4
8000 96.0 97.2 97.9 97.9 97.9 101.7 103.5 106.2 109.2 112.5 110.2 104.5 97.6 148.9
10000 94.6 95.7 96.8 97.8 98.3 100.8 102.1 105.7 108.8 110.4 109.7 103.7 97.3 148.5
12500 93.0 94.7 96.2 96.2 97.3 99.3 100.7 103.5 107.1 109.3 108.1 102.5 95.4 147.8
15000 90.8 92.9 94.3 94.8 95.8 97.2 102.3 105.0 107.1 110.9 100.9 92.8 88.4 147.0
16000 89.8 90.8 92.9 94.8 95.6 97.2 102.7 110.3 107.7 112.4 128.7 130.4 125.9 166.0
20000 88.9 90.8 92.5 92.8 95.6 97.2 99.0 102.7 104.5 103.8 99.5 92.2 146.6
25000 84.8 87.8 89.0 88.9 90.1 94.2 94.9 95.3 99.6 101.3 99.6 96.1 88.2 145.7
31500 80.6 84.2 84.3 85.3 87.0 91.0 92.7 96.2 98.0 97.2 92.5 83.8 145.6
40000 76.3 79.6 81.8 83.5 86.8 87.5 88.6 88.6 93.8 94.1 95.9 88.4 79.7 146.6
50000 71.9 75.8 78.0 79.0 83.0 84.2 86.2 86.6 90.0 92.4 91.9 83.6 73.6 147.6
63000 65.7 74.0 72.8 76.9 79.3 79.1 80.6 88.8 92.0 92.0 79.1 69.3 151.9
80000 62.2 75.3 71.2 77.4 71.1 77.4 73.8 75.4 88.7 92.9 89.0 74.1 67.3 158.1

DBA 110.5 111.6 111.0 111.3 111.0 113.0 114.5 117.6 122.1 128.6 130.1 123.7 116.8
PNLT 123.1 125.8 124.1 125.1 124.9 127.0 128.4 131.1 135.0 141.4 142.1 135.5 129.8
GASPL 110.2 111.4 110.9 111.3 111.3 113.4 115.1 118.1 122.4 128.7 130.4 125.9 121.9 166.0

NASA SHOCK CELL/CONT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICLE = ADH110 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = 3
IAPLHA = SB59 DEG WIND VEL = NO PWL AREA = FULL SPHERE TAMB F = 82.50 MIKE HT = 29.40
WIND DIR = WIND DIR = 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

FNINI = LBS XNL = RPM XNH = RPM V8 = 2391.9 FPS AE8 = 25.3 SQ IN
FNAMB = LBS XNL = RPM XNH = RPM V8 = 2391.9 FPS AE8 = 25.3 SQ IN
CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-0306 X0306F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

FREQ

50

63

100

125

150

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 200 | 92.9 | 94.3 | 93.3 | 93.9 | 92.6 | 92.3 | 93.3 | 95.3 | 100.0 | 106.3 | 108.7 | 111.1 | 111.3 | 145.3 |
| 250 | 92.9 | 94.3 | 93.3 | 93.9 | 92.1 | 94.3 | 94.7 | 96.4 | 106.5 | 112.7 | 114.7 | 115.9 | 113.8 | 150.2 |
| 315 | 92.9 | 94.3 | 93.3 | 93.9 | 92.1 | 94.3 | 94.7 | 96.4 | 106.5 | 112.7 | 114.7 | 115.9 | 113.8 | 150.2 |
| 400 | 93.3 | 94.3 | 93.3 | 93.9 | 92.6 | 93.1 | 96.7 | 99.9 | 106.0 | 113.2 | 115.7 | 112.9 | 112.9 | 150.6 |
| 500 | 95.3 | 95.3 | 94.3 | 93.8 | 94.5 | 95.6 | 97.5 | 100.5 | 106.6 | 115.6 | 118.2 | 116.6 | 112.9 | 152.3 |
| 630 | 95.1 | 96.9 | 96.0 | 95.8 | 95.5 | 96.3 | 98.5 | 101.6 | 107.1 | 115.2 | 119.0 | 116.0 | 111.9 | 152.4 |
| 800 | 97.2 | 97.8 | 96.6 | 96.4 | 96.7 | 97.3 | 98.2 | 101.1 | 108.5 | 116.3 | 119.8 | 115.9 | 113.9 | 153.2 |
| 1000 | 99.3 | 97.9 | 96.8 | 97.4 | 97.5 | 98.4 | 99.6 | 101.7 | 109.3 | 116.7 | 120.1 | 115.5 | 113.8 | 153.5 |
| 1250 | 101.2 | 100.7 | 98.8 | 98.6 | 100.4 | 100.3 | 102.6 | 110.1 | 116.5 | 120.5 | 114.7 | 114.1 | 113.7 | 153.7 |
| 1500 | 101.5 | 104.1 | 101.9 | 101.3 | 100.7 | 101.9 | 103.1 | 104.5 | 111.3 | 118.9 | 119.4 | 114.6 | 114.6 | 154.2 |
| 1600 | 101.5 | 104.1 | 101.9 | 101.3 | 100.7 | 101.9 | 103.1 | 104.5 | 111.3 | 118.9 | 119.4 | 114.6 | 114.6 | 154.2 |
| 2000 | 109.6 | 106.5 | 104.2 | 101.7 | 101.6 | 102.1 | 102.8 | 104.7 | 111.0 | 117.8 | 118.0 | 113.3 | 114.1 | 153.4 |
| 2500 | 110.6 | 111.1 | 107.8 | 104.4 | 104.7 | 103.3 | 103.2 | 105.4 | 111.1 | 116.5 | 117.4 | 111.7 | 112.1 | 153.2 |
| 3150 | 106.1 | 107.2 | 107.0 | 107.7 | 105.7 | 106.8 | 104.2 | 105.4 | 111.6 | 115.8 | 115.3 | 111.0 | 111.4 | 152.4 |
| 4000 | 106.6 | 107.2 | 105.9 | 106.0 | 104.1 | 106.1 | 106.6 | 107.4 | 111.4 | 114.8 | 109.8 | 109.7 | 151.1 | |
| 5000 | 105.0 | 105.2 | 104.7 | 103.8 | 103.6 | 105.0 | 105.2 | 107.8 | 110.3 | 113.3 | 111.5 | 109.1 | 109.7 | 150.7 |
| 6300 | 103.3 | 103.7 | 103.3 | 103.8 | 103.6 | 105.0 | 105.2 | 107.8 | 110.3 | 113.3 | 111.5 | 109.1 | 109.7 | 150.7 |
| 8000 | 103.3 | 104.5 | 103.3 | 102.8 | 101.9 | 104.7 | 105.0 | 106.3 | 110.3 | 111.6 | 111.4 | 108.8 | 110.0 | 150.4 |
| 10000 | 102.2 | 103.6 | 102.4 | 102.3 | 103.8 | 103.7 | 105.9 | 108.8 | 110.6 | 110.0 | 107.8 | 108.2 | 150.0 | |
| 12500 | 101.4 | 101.9 | 102.0 | 101.3 | 102.3 | 102.2 | 103.6 | 107.6 | 109.5 | 108.1 | 107.4 | 108.6 | 149.6 | |
| 15000 | 99.4 | 100.3 | 100.9 | 98.9 | 100.8 | 101.0 | 102.7 | 105.6 | 107.2 | 106.3 | 106.4 | 149.3 | | |
| 20000 | 96.8 | 98.1 | 98.7 | 97.6 | 98.6 | 98.8 | 99.3 | 103.1 | 104.6 | 103.5 | 103.5 | 148.3 | | |
| 25000 | 94.2 | 95.3 | 95.2 | 94.7 | 97.2 | 96.6 | 95.7 | 100.2 | 101.7 | 101.5 | 100.1 | 147.9 | | |
| 31500 | 92.1 | 93.8 | 93.6 | 92.0 | 91.6 | 92.5 | 92.9 | 98.5 | 98.4 | 100.6 | 96.4 | 148.5 | | |
| 40000 | 87.1 | 89.5 | 88.1 | 87.5 | 88.1 | 89.8 | 88.9 | 95.0 | 96.9 | 96.7 | 91.4 | 148.9 | | |
| 50000 | 82.4 | 84.5 | 85.2 | 83.6 | 83.6 | 84.5 | 84.2 | 94.7 | 97.5 | 97.7 | 87.8 | 152.5 | | |
| 63000 | 77.0 | 79.7 | 79.0 | 78.9 | 80.6 | 80.6 | 80.6 | 96.1 | 99.8 | 96.2 | 84.4 | 158.3 | | |
| 80000 | 69.3 | 76.4 | 73.8 | 76.3 | 75.5 | 80.4 | 75.2 | 75.3 | 86.2 | 90.0 | 86.4 | 155.9 | | |
| DBA | 192.0 | 197.6 | 195.6 | 197.3 | 196.8 | 201.2 | 196.9 | 196.9 | 209.9 | 213.0 | 209.7 | 198.1 | 197.9 | |
| PWL | 129.9 | 130.4 | 128.3 | 128.2 | 127.1 | 128.1 | 128.2 | 129.7 | 134.5 | 139.3 | 140.2 | 136.1 | 135.8 | |
| PNL | 129.9 | 130.4 | 128.3 | 128.2 | 127.1 | 128.1 | 128.2 | 129.7 | 134.5 | 139.3 | 140.2 | 136.1 | 135.8 | |
| DBA | 192.0 | 197.6 | 195.6 | 197.3 | 196.8 | 201.2 | 196.9 | 196.9 | 209.9 | 213.0 | 209.7 | 198.1 | 197.9 | |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH110 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIO = 3 TAMB F = 82.50 PAMB HG = 29.40 FLTVEL = 400. FPS
IAPLHA = SB59 IEQA / = NO PWL AREA = FULL SPHERE EXT DIST = 40.0 FT EXI CONFIO = ARC MIKE HT = NBFR = 64.0 PCT
WIND DIR = DEG WIND VEL = MPH RPM XNHR XNH RPM V8 = 2391.9 FPS AE8 = 25.3 SQ IN = 0. SQ IN

RUNPT = 100-0306 TAPE = X0306F TEST PT NO = 0306 NC = 863 CORR FAN SPEED = RPM

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OF POOR QUALITY

DATPROC - FLTHAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-0306 X03061

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160

PWL

50 71.2 73.8 73.9 73.9 74.8 77.0 78.5 81.3 86.6 92.7 93.7 91.9 85.4 168.0

63 73.2 74.8 75.1 76.2 77.4 79.4 81.8 87.1 95.1 96.2 92.3 85.3 169.7

80 73.0 76.4 76.5 77.0 77.1 78.1 80.2 82.9 87.6 94.6 96.9 91.7 84.2 169.8

100 75.1 77.2 77.1 77.6 78.3 79.0 79.8 82.3 89.0 95.7 97.6 91.5 86.0 170.6

125 77.0 77.2 77.2 78.5 79.1 80.1 81.2 82.9 89.7 96.0 97.9 85.7 170.9

150 78.7 79.8 79.0 79.6 81.9 81.9 82.0 83.6 90.4 95.7 98.0 89.9 85.6 171.1

200 78.8 83.1 82.0 82.1 81.9 83.3 84.4 85.3 91.4 97.9 96.6 89.4 85.7 171.6

250 86.5 85.1 84.0 82.3 82.7 83.3 83.9 85.3 90.8 96.4 95.0 87.7 84.5 170.9

315 87.1 89.4 87.3 84.7 85.5 84.3 84.0 85.8 94.8 93.9 85.6 81.8 170.6

400 82.2 85.1 86.2 87.7 86.2 87.4 84.8 85.5 90.8 93.8 91.3 84.2 80.0 169.8

500 82.1 84.7 84.8 85.7 84.3 86.5 86.9 87.2 90.2 92.4 90.0 81.4 77.0 169.2

630 80.1 82.6 83.8 84.1 83.9 85.0 85.9 87.0 89.8 90.1 88.3 81.8 76.2 168.5

800 77.9 80.4 81.5 83.0 83.3 84.9 85.0 87.0 88.6 90.1 86.0 80.3 75.1 168.1

1000 77.5 81.0 81.3 81.8 81.5 84.5 84.6 85.3 88.3 88.1 85.6 79.4 74.3 167.9

1250 75.8 79.7 81.0 81.2 81.8 83.4 83.1 84.8 86.6 86.8 83.7 77.6 71.0 167.4

1600 74.2 77.4 79.3 80.5 80.5 81.6 81.4 82.1 85.0 85.0 80.8 75.8 69.1 167.0

2000 71.1 75.2 77.9 78.2 77.9 78.3 77.2 76.9 79.2 78.3 73.5 67.4 55.5 165.7

2500 66.8 69.6 69.5 71.2 71.7 74.5 73.7 71.7 74.4 73.0 68.1 59.1 43.1 165.3

3150 60.9 66.6 64.0 64.7 65.7 67.7 66.6 65.6 68.9 64.9 61.0 46.4 24.7 165.9

4000 52.5 60.4 64.0 64.7 65.7 67.7 66.6 65.6 68.9 64.9 61.0 46.4 24.7 165.9

5000 37.8 48.5 52.2 54.8 57.2 59.5 58.0 55.9 59.1 55.8 47.3 27.8 0.0 166.3

6300 15.2 29.2 37.3 40.1 42.6 45.8 43.5 40.8 46.8 42.2 30.6 0.0 169.9

8000 9.7 16.2 20.7 24.3 21.4 17.9 26.8 19.7

10000 173.3

12500 175.7

15000 169.9

17500 166.3

20000 165.9

22500 165.3

25000 165.9

27500 165.3

30000 165.9

32500 165.3

35000 165.9

37500 165.3

40000 165.9

42500 165.3

45000 165.9

47500 165.3

50000 165.9

52500 165.3

55000 165.9

57500 165.3

60000 165.9

62500 165.3

65000 165.9

MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/CONT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH110 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = 3 FLVEL = 400. FPS

IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 82.50 PAMB HG = 29.40 RELHUM = 64.0 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR

FNINI = LBS XNL = RPM XNH = RPM V8 = 2391.9 FPS AE8 = 25.3 SQ IN

FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2391.9 FPS AE18 = 0. SQ IN

RUNPT = 81F-400-0306 TAPE = X03061 TEST PT NO = 0306 NC = 863 CORR FAN SPEED = RPM

ORIGINAL PRICE OF
OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL B1F-ZER-0309 X0309C
BACKGROUND B1F-400-0300

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 85.4 84.7 83.2 82.0 82.9 85.5 86.1 87.8 90.2 94.1 93.4 94.4 95.3 131.5

63 88.5 88.3 89.8 89.1 90.7 92.8 92.2 91.8 93.8 101.4 98.0 98.7 100.1 137.0

80 91.3 96.3 91.3 91.6 92.7 95.8 95.5 95.4 96.0 96.2 98.3 100.5 102.1 138.1

100 91.3 97.1 92.9 94.7 95.0 96.6 97.2 98.4 99.2 100.3 104.3 105.4 140.5

125 87.6 90.4 91.4 93.4 93.4 95.0 97.4 97.5 97.4 97.8 101.2 105.9 109.3 143.6

150 86.5 87.6 90.3 90.6 90.7 92.1 94.7 96.4 98.6 103.9 107.5 112.4 144.6

160 86.5 87.6 90.3 90.6 90.7 92.1 94.7 96.4 98.6 103.9 107.5 112.4 144.6

200 88.8 88.1 89.6 90.4 92.2 95.6 96.0 98.1 102.8 105.1 109.3 113.7 147.1

250 88.8 88.1 89.6 90.4 92.2 95.6 96.0 98.1 102.8 105.1 109.3 113.7 147.1

315 88.8 88.1 89.6 90.4 92.2 95.6 96.0 98.1 102.8 105.1 109.3 113.7 147.1

400 91.1 92.9 93.1 94.4 94.3 95.0 95.9 98.2 101.1 104.5 110.5 118.6 120.7 120.1 116.8 155.3

500 90.7 93.7 94.3 95.0 95.9 98.2 101.1 104.5 110.5 118.6 120.7 120.1 116.8 155.3

630 92.8 94.8 95.4 96.4 96.5 99.4 102.0 105.9 110.9 120.4 122.8 120.7 118.4 156.9

800 96.7 96.0 96.5 97.3 98.4 100.5 102.1 106.0 112.4 120.8 122.4 120.6 117.0 156.9

1000 100.7 101.3 100.6 99.9 100.6 99.9 100.6 99.9 100.6 99.9 100.6 99.9 100.6 99.9 100.6 99.9

1250 99.0 103.5 102.8 103.1 102.7 103.3 104.4 107.8 113.7 121.1 118.4 114.0 109.2 155.1

1500 101.0 102.6 101.8 102.8 103.4 105.3 106.1 109.1 114.2 119.6 118.0 112.7 108.5 154.4

1750 101.0 101.2 102.8 102.8 103.4 105.3 106.1 109.1 114.2 119.6 118.0 112.7 108.5 154.4

2000 101.0 101.2 102.8 102.8 103.4 105.3 106.1 109.1 114.2 119.6 118.0 112.7 108.5 154.4

2500 101.7 102.5 103.0 103.1 103.7 104.6 105.5 106.4 107.3 108.2 109.1 110.0 109.0 155.1

3150 101.0 101.8 102.6 102.8 103.4 105.3 106.1 109.1 114.2 119.6 118.0 112.7 108.5 154.4

4000 100.0 101.0 101.2 102.8 102.8 103.4 105.3 106.1 109.1 114.2 119.6 118.0 112.7 108.5 154.4

5000 98.9 100.4 100.2 101.7 102.7 104.6 105.5 106.4 107.3 108.2 109.1 110.0 109.0 155.1

6300 98.7 101.2 100.8 101.1 102.3 104.5 105.5 106.4 107.3 108.2 109.1 110.0 109.0 155.1

8000 61.8 78.8 71.9 80.8 83.5 83.2 78.8 80.3 90.2 97.1 92.6 83.7 70.9 161.8

10000 65.6 76.6 73.4 78.9 77.3 83.4 81.5 83.8 91.9 96.4 93.9 85.2 74.5 155.3

12500 124.3 126.4 125.5 126.9 126.8 128.7 130.5 133.4 137.8 143.6 142.9 139.8 136.2

15000 111.3 112.9 113.4 113.8 115.8 117.5 120.4 125.0 131.4 132.0 130.1 127.2 168.8

17500 111.3 112.9 113.4 113.8 115.8 117.5 120.4 125.0 131.4 132.0 130.1 127.2 168.8

20000 111.3 112.9 113.4 113.8 115.8 117.5 120.4 125.0 131.4 132.0 130.1 127.2 168.8

25000 111.3 112.9 113.4 113.8 115.8 117.5 120.4 125.0 131.4 132.0 130.1 127.2 168.8

31500 111.3 112.9 113.4 113.8 115.8 117.5 120.4 125.0 131.4 132.0 130.1 127.2 168.8

40000 111.3 112.9 113.4 113.8 115.8 117.5 120.4 125.0 131.4 132.0 130.1 127.2 168.8

50000 111.3 112.9 113.4 113.8 115.8 117.5 120.4 125.0 131.4 132.0 130.1 127.2 168.8

63000 111.3 112.9 113.4 113.8 115.8 117.5 120.4 125.0 131.4 132.0 130.1 127.2 168.8

80000 111.3 112.9 113.4 113.8 115.8 117.5 120.4 125.0 131.4 132.0 130.1 127.2 168.8

ORIGINAL PAGE IS
OF POOR QUALITY

202

VEHICLE = ADH095 TEST DATE = 09-01-81 LOCAL = C41 ANECH CH CONFIG = 3 MODEL = 3 FLTVEL = 0. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 76.00 PAMB HG = 29.45 RELHUM = 89.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =
FNINI = LBS XNL RPM XNH RPM XNHR = RPM V8 = 2406.5 FPS AE8 = 25.3 SO IN
FNFRMB = LBS XNLR RPM = RPM V18 = 2406.5 FPS AE18 = 0. SO IN
RUNPT = 81 ER-0309 TAPE = X0309C TEST PT NO = 0309 NC = 863 CORR FAN SPEED = RPM

NASA SHOCK CELL/CONT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-0309 X0309F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREQ

50 85.4 84.7 83.2 82.0 82.9 85.5 86.1 87.8 90.2 94.1 93.4 94.4 95.3 131.5

63 88.5 88.3 89.8 89.1 90.7 92.8 92.2 91.8 93.8 101.4 98.0 98.7 100.1 137.0

80 91.3 96.3 91.6 92.7 95.8 95.5 95.4 96.0 96.2 98.3 100.5 102.1 138.1

100 91.3 97.1 92.9 94.7 95.0 96.6 97.2 98.4 97.5 99.2 100.3 104.3 140.5

125 87.6 90.4 91.4 93.4 95.0 97.4 97.4 97.5 97.4 97.8 101.2 106.9 143.6

160 86.5 87.6 90.3 90.6 90.7 92.1 94.7 96.4 98.6 103.9 107.5 112.4 144.6

200 88.8 88.1 89.6 90.4 92.2 95.6 96.0 98.1 102.8 105.1 109.3 113.7 147.1

250 88.8 92.1 92.3 94.9 94.7 95.3 97.5 101.1 106.6 111.9 116.0 117.1 151.7

315 88.8 91.4 91.6 92.7 94.0 97.4 99.8 102.4 107.2 113.4 116.3 118.5 152.2

400 91.1 92.9 93.1 94.4 94.3 98.1 101.3 105.2 111.8 118.4 120.6 120.5 155.4

500 90.7 93.7 94.3 95.0 95.9 98.2 101.1 104.5 110.5 118.6 120.7 120.1 155.3

630 92.8 94.8 95.4 96.4 96.5 99.4 102.0 105.9 110.9 120.4 122.8 120.7 156.9

800 96.7 97.3 98.4 98.9 99.4 100.5 102.1 106.0 112.4 120.8 122.7 120.4 156.9

1000 100.7 101.3 100.0 100.6 99.9 101.5 103.7 107.1 113.3 120.6 122.5 120.4 156.8

1250 99.0 103.5 102.8 103.1 102.7 103.3 104.4 107.8 113.7 121.1 122.5 119.4 156.9

1600 101.0 100.3 101.6 101.9 102.0 103.3 106.8 113.9 120.8 121.7 112.5 110.9 156.3

2000 102.7 103.1 102.2 101.6 101.2 103.6 105.0 108.9 114.5 121.7 120.0 115.9 155.9

2500 101.7 102.5 102.5 103.0 103.1 104.0 106.8 109.3 113.7 121.1 118.4 114.0 155.1

3150 101.0 102.6 101.8 102.8 103.4 105.3 106.1 109.1 114.2 119.6 118.0 112.7 154.4

4000 100.0 101.0 101.2 102.8 102.8 105.1 106.9 109.8 113.1 117.7 115.0 110.5 153.6

5000 98.9 100.4 100.2 101.7 102.7 104.6 106.5 109.6 112.9 117.0 115.0 109.9 152.6

6300 98.7 101.2 100.8 101.1 102.3 104.5 106.2 109.5 112.2 115.3 113.6 109.9 151.8

8000 97.0 99.9 100.4 101.1 103.9 105.5 108.2 111.4 114.7 112.1 108.7 104.8 151.2

10000 96.2 98.4 99.9 100.9 103.7 104.1 107.4 110.2 113.3 111.3 107.3 103.7 150.7

12500 94.9 98.0 99.1 100.1 102.4 103.1 104.8 108.2 111.6 110.2 105.1 101.2 149.8

16000 91.4 94.9 95.9 96.5 97.6 99.6 101.0 103.8 105.8 107.2 102.4 99.7 148.6

20000 89.1 92.1 93.2 94.6 95.4 97.7 98.6 100.4 103.6 104.9 100.7 96.4 148.0

25000 85.1 89.7 89.9 90.6 92.3 95.4 96.6 98.5 100.3 102.9 100.1 97.9 146.9

31500 80.4 84.9 85.7 87.0 88.8 91.7 92.5 93.7 96.8 101.3 97.9 94.5 147.4

40000 75.8 80.7 82.1 83.1 85.2 88.0 89.2 90.7 94.6 97.5 96.4 91.4 148.3

50000 71.5 77.2 79.5 80.6 85.4 84.6 86.5 92.7 96.6 94.1 88.8 78.1 150.7

63000 65.6 76.6 78.9 77.3 83.4 81.5 83.8 91.9 96.4 93.9 85.2 74.5 155.3

80000 61.8 78.8 78.8 71.9 80.8 73.5 83.2 78.8 80.3 90.2 97.1 92.6 83.7 161.8

GASPL 111.3 112.9 112.7 113.4 113.8 115.8 117.5 120.4 125.0 131.4 132.0 130.1 127.2 168.8

PNL 124.3 125.8 125.5 126.4 126.8 128.7 130.5 133.4 137.8 143.6 142.9 139.8 136.2

PMLT 124.3 126.4 125.5 126.9 126.8 129.3 130.5 133.4 137.8 143.6 142.9 139.8 136.2

DBA 183.1 199.1 192.7 201.1 194.7 203.7 199.7 201.3 210.9 217.5 213.2 204.4 192.0

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NO2, SC-3/NAS3-22514

VEHICL = ADH095 TEST DATE = 09-01-81 LOCAL = C41 ANECH CH CONFIG = 3 MODEL = 3 FLTVL = 0. FPS

IAPLHA = SB59 IEQA / NO MPH EXT DIST = 40.0 FT EXT CONFIG = ARC TAMB F = 76.00 PAMB HG = 29.45 RELHUM = 89.0 PCT

WIND DIR = DEG WIND VEL = WIND VEL = NO MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBRF =

FNINI = LBS XNL RPM XNH RPM V8 = 2406.5 FPS AEB = 25.3 SQ IN = 0. SQ IN

FNRAMB = LBS XNL RPM XNH RPM V8 = 2406.5 FPS AEB = 25.3 SQ IN = 0. SQ IN

TEST PT NO = 0309 NC = 863 CORR FAN SPEED = RPM

RUNPT = 81F-ZER-0309 TAPE = X0309F

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-0309 X03091

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 69.1 72.4 73.7 75.7 76.0 80.0 83.0 86.5 92.4 98.0 98.6 96.3 89.9 172.8

63 68.7 73.2 74.8 76.3 77.6 80.1 82.8 85.8 91.0 98.1 98.7 95.9 89.2 172.7

80 70.7 74.3 75.9 77.7 78.2 81.2 83.7 87.2 91.5 99.9 100.7 96.4 90.7 174.3

100 74.5 77.4 77.0 78.5 80.0 82.3 83.8 87.3 92.8 100.2 100.5 96.2 89.2 174.3

125 78.4 80.6 80.4 81.7 81.5 83.2 85.2 88.2 93.7 99.9 100.2 95.8 88.5 174.2

160 76.5 82.7 83.1 84.1 84.1 84.9 85.9 88.8 94.0 100.3 100.0 94.6 86.5 174.3

200 78.3 79.2 81.7 82.7 83.2 84.7 86.1 89.6 93.9 99.7 99.2 92.6 83.5 173.7

250 79.6 81.7 82.1 82.2 82.3 84.8 86.0 89.5 94.4 100.3 97.0 90.3 81.3 173.4

315 78.2 80.8 82.0 83.4 83.9 84.9 87.6 89.6 93.3 99.4 95.0 87.9 78.9 172.5

400 77.0 80.5 81.0 82.9 83.9 85.9 86.6 89.1 93.4 97.5 94.0 85.9 77.2 171.8

500 75.5 78.5 80.1 82.5 83.1 85.4 87.2 89.5 91.9 95.2 91.2 84.5 74.7 170.4

630 73.9 77.6 78.7 81.2 82.6 84.7 86.5 89.0 91.4 94.1 90.1 82.4 73.2 170.0

800 73.3 77.9 79.1 80.3 82.0 84.4 85.9 88.6 90.4 92.1 88.2 81.1 71.0 169.2

1000 71.2 76.4 77.7 79.4 80.1 80.7 83.6 85.1 87.2 89.4 91.2 86.2 79.3 168.7

1250 69.9 74.5 77.4 79.8 81.1 83.3 83.5 86.2 88.0 89.4 85.0 77.1 66.6 168.2

1600 67.6 72.5 75.6 77.6 79.3 81.7 82.2 83.3 85.5 87.1 83.0 73.5 61.7 167.3

2000 63.1 69.8 72.8 74.8 76.6 78.8 80.0 82.0 82.7 83.5 79.0 69.2 57.2 166.1

2500 59.1 65.8 69.3 72.2 73.9 76.4 77.0 77.9 79.6 80.0 74.9 64.6 48.9 165.5

3150 51.7 60.9 64.1 66.7 69.3 72.8 73.7 72.6 74.5 74.2 66.7 56.8 35.9 164.4

4000 40.8 51.4 56.1 59.7 62.9 66.2 66.6 66.4 67.2 67.9 58.3 44.5 16.8 164.8

5000 26.4 39.6 46.2 50.5 54.2 58.2 58.0 58.7 56.4 47.1 27.7 1.0 165.8

6300 4.4 22.0 29.3 36.1 39.6 45.1 43.6 43.1 44.8 41.3 27.0 1.0 168.1

8000 172.7 172.7 179.2

10000

12500

16000

20000

25000

31500

40000

50000

63000

80000

MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/COUNT, CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH095 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = 3 FLTVEL = 0. FPS

IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE EXT DIST = 2400.0 FT TAMB F = 76.00 PAMB HG = 29.45 RELHUM = 89.0 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT XNHR RPM XNH RPM V8 = 2406.5 FPS AE8 = 25.3 SQ IN

FNINI = LBS XNL RPM XNHR RPM V8 = 2406.5 FPS AE8 = 25.3 SQ IN

FNRAMB = LBS XNL RPM XNHR RPM V8 = 2406.5 FPS AE8 = 25.3 SQ IN

TEST PT NO = 0309 NC = 863 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

DATPROC - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-0310 X0310C

BACKGROUND 81F-400-0300 X03000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 88.9 87.2 82.5 82.4 83.7 83.9 87.3 90.4 94.3 95.7 95.1 98.8 132.7

63 89.7 88.8 88.3 89.4 89.3 89.4 92.1 94.3 101.4 100.0 98.9 100.6 137.3

80 91.5 96.1 90.8 91.6 92.5 95.1 94.7 94.4 95.8 94.4 97.0 99.2 102.1 137.4

100 91.1 95.6 91.6 93.2 93.7 94.9 96.2 97.7 96.5 97.2 99.1 103.5 105.2 139.5

125 88.1 90.1 91.2 93.2 94.3 96.2 95.5 95.7 95.8 99.5 104.9 107.8 110.0 142.4

150 86.8 84.3 88.3 89.1 89.2 90.6 92.5 94.4 96.3 101.6 105.8 108.5 111.6 143.2

200 86.3 86.6 87.1 87.6 89.0 91.8 93.0 96.4 100.3 102.4 106.3 111.5 113.1 145.0

250 85.8 89.3 88.8 90.9 92.0 93.1 95.7 99.4 104.6 109.9 113.8 116.0 114.4 149.7

315 85.8 88.6 89.7 91.0 92.7 94.9 97.0 99.4 104.0 111.2 113.8 116.0 114.4 149.7

400 88.3 89.1 90.1 90.7 91.5 95.6 98.3 102.4 108.6 116.0 117.8 117.5 113.4 152.5

500 87.4 89.7 91.0 92.3 93.4 96.0 98.9 103.0 108.2 116.1 118.5 117.1 110.3 152.6

630 89.3 91.3 91.9 92.7 94.0 96.1 99.5 103.9 108.7 118.2 120.8 116.7 108.4 154.1

800 92.0 91.5 92.0 93.3 95.1 97.5 99.6 103.5 109.4 118.3 120.7 115.4 105.6 154.0

1000 95.7 96.0 95.8 96.3 96.7 98.3 100.7 104.1 110.1 119.1 121.2 113.9 105.1 154.4

1250 96.0 99.8 99.1 99.6 99.4 100.5 101.7 103.8 105.1 111.0 119.3 113.0 104.7 154.6

1500 98.2 100.1 99.0 98.6 98.9 99.0 100.8 103.2 106.4 112.8 120.4 112.4 104.6 154.8

2000 99.2 100.5 100.1 101.2 103.1 106.3 111.3 119.1 117.9 110.7 103.5 153.3

2500 98.2 98.7 99.2 100.5 100.1 101.2 103.1 106.3 111.3 119.1 117.9 110.7 103.5 153.3

3150 97.3 98.3 98.6 98.9 100.2 102.8 103.1 112.4 117.4 117.5 109.2 101.3 152.5

4000 96.2 97.0 97.8 98.8 99.6 102.3 104.0 107.3 111.6 116.0 115.0 107.4 151.2

5000 96.6 97.2 97.0 98.0 99.2 101.9 103.5 106.8 111.1 115.3 114.0 105.6 150.6

6300 96.8 97.9 97.9 99.8 101.8 103.3 106.7 110.8 114.1 112.7 106.0 98.6 150.0

8000 98.0 98.4 98.2 98.4 98.9 101.2 103.0 106.5 110.2 113.0 111.2 104.8 149.5

10000 95.3 97.0 97.8 99.0 101.6 101.9 105.7 109.3 111.4 109.7 104.7 98.1 149.0

12500 93.8 95.2 95.9 96.5 98.3 100.3 101.2 103.0 107.4 110.0 108.1 103.3 148.2

16000 91.1 93.6 94.5 95.6 98.1 99.5 102.5 105.8 107.6 105.8 100.9 94.9 147.5

20000 89.2 90.8 91.9 92.7 93.5 96.3 96.9 99.7 103.2 105.5 103.3 99.0 147.0

25000 85.6 88.0 88.7 89.2 91.6 94.7 95.4 95.8 100.4 102.3 100.1 96.9 146.4

31500 81.1 84.2 85.0 85.3 87.5 90.9 91.8 92.7 96.7 99.5 97.2 92.3 146.3

40000 76.3 79.9 81.0 81.5 84.5 87.6 88.0 89.6 94.6 96.3 95.6 88.7 147.5

50000 72.1 75.6 76.3 77.7 79.2 83.2 83.5 84.5 91.5 94.9 92.9 83.9 149.1

63000 66.2 73.8 72.1 75.4 79.1 79.6 80.8 89.8 94.0 91.5 80.6 70.0 152.9

80000 61.9 74.6 70.9 75.9 71.3 76.7 74.1 76.1 89.2 91.6 89.5 75.1 157.7

QASPL 108.5 109.9 109.8 110.4 111.1 113.3 114.9 118.0 122.9 129.5 130.6 126.3 122.4 166.4

PWL 121.2 122.4 123.2 123.9 126.2 127.7 130.9 135.9 142.2 142.6 136.2 130.4

DBA 108.2 109.3 109.4 110.4 112.5 114.2 117.5 122.7 129.4 130.3 124.2 117.4

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICLE = ADHI09 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CCONFIG = 3 MODEL = 3 FLTVEL = 400. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 82.50 PAMB HG = 29.40 RELHUM = 64.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CCONFIG = ARC MIKE HT = NBFR =FNIN1 = LBS XNL RPM XNH XNHR = RPM V8 = 2413.4 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNL RPM XNH XNHR = RPM V8 = 2413.4 FPS AE8 = 25.3 SQ IN

RUNPT = 81F-400-0310 TAPE = X0310C TEST PT NO = 0310 NC = 863 CORR FAN SPEED = RPM

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432

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-0310 X0310F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

| | | | | | | | |
|-----------|-------|-------|-------|-------|-------|-------|-------|
| 200 | 160 | 125 | 100 | 80 | 63 | 50 | 40 |
| 250 | 93.7 | 95.8 | 93.8 | 94.2 | 93.6 | 93.1 | 93.8 |
| 315 | 93.7 | 95.8 | 93.8 | 94.2 | 92.8 | 95.1 | 95.7 |
| 400 | 93.5 | 95.0 | 93.3 | 93.1 | 93.4 | 95.9 | 97.5 |
| 500 | 96.0 | 95.5 | 95.1 | 94.1 | 96.3 | 97.9 | 101.0 |
| 630 | 95.1 | 96.1 | 96.0 | 95.8 | 96.5 | 98.5 | 101.6 |
| 800 | 97.0 | 96.9 | 96.2 | 97.2 | 98.0 | 99.9 | 102.0 |
| 1000 | 99.6 | 97.9 | 97.1 | 96.9 | 98.4 | 99.9 | 102.0 |
| 1250 | 100.9 | 100.5 | 99.5 | 99.0 | 101.4 | 101.3 | 101.0 |
| 1500 | 101.9 | 103.0 | 102.8 | 101.1 | 102.4 | 103.4 | 104.3 |
| 2000 | 104.1 | 103.0 | 102.9 | 101.1 | 102.1 | 103.1 | 104.3 |
| 2500 | 104.3 | 104.5 | 103.7 | 102.0 | 102.9 | 103.2 | 103.2 |
| 3150 | 104.7 | 104.6 | 104.2 | 104.4 | 103.5 | 104.8 | 103.7 |
| 4000 | 104.8 | 105.0 | 104.2 | 103.3 | 103.3 | 104.9 | 105.0 |
| 5000 | 103.8 | 103.7 | 103.5 | 103.4 | 103.2 | 104.9 | 105.0 |
| 6300 | 104.1 | 103.9 | 102.8 | 102.8 | 103.9 | 104.8 | 104.7 |
| 8000 | 104.1 | 103.6 | 102.6 | 102.9 | 104.2 | 104.5 | 106.6 |
| 10000 | 102.5 | 104.4 | 103.7 | 102.9 | 104.6 | 103.4 | 105.9 |
| 12500 | 102.2 | 102.6 | 102.3 | 102.0 | 102.3 | 103.3 | 102.7 |
| 15000 | 100.1 | 100.8 | 100.7 | 100.2 | 99.6 | 101.1 | 101.1 |
| 20000 | 97.0 | 98.8 | 97.8 | 97.6 | 99.3 | 98.5 | 100.0 |
| 25000 | 94.5 | 95.3 | 95.6 | 95.4 | 96.2 | 97.7 | 97.0 |
| 31500 | 92.9 | 94.1 | 93.4 | 92.2 | 92.1 | 93.9 | 93.3 |
| 40000 | 87.6 | 89.5 | 88.8 | 87.5 | 89.1 | 90.6 | 89.4 |
| 50000 | 82.4 | 84.7 | 84.4 | 83.3 | 83.8 | 86.2 | 85.0 |
| 63000 | 77.3 | 79.5 | 78.7 | 78.6 | 80.0 | 82.1 | 81.1 |
| 80000 | 69.8 | 76.2 | 73.0 | 74.8 | 75.8 | 79.7 | 75.5 |
| 100000 | 66.7 | 72.6 | 69.8 | 71.5 | 72.2 | 75.2 | 71.7 |
| 125000 | 64.2 | 70.1 | 67.3 | 69.0 | 69.8 | 72.5 | 69.5 |
| 150000 | 61.7 | 67.6 | 64.8 | 66.5 | 67.3 | 70.6 | 67.6 |
| 200000 | 58.8 | 64.7 | 61.9 | 63.6 | 64.4 | 67.7 | 64.5 |
| 250000 | 55.9 | 61.8 | 59.0 | 60.7 | 61.5 | 64.8 | 61.6 |
| 315000 | 52.9 | 58.9 | 56.1 | 57.8 | 58.6 | 61.9 | 58.7 |
| 400000 | 49.9 | 55.9 | 53.1 | 54.8 | 55.6 | 58.9 | 55.8 |
| 500000 | 46.9 | 52.9 | 50.1 | 51.8 | 52.6 | 55.9 | 52.8 |
| 630000 | 43.9 | 49.9 | 47.1 | 48.8 | 49.6 | 52.9 | 49.9 |
| 800000 | 40.9 | 46.9 | 44.1 | 45.8 | 46.6 | 49.9 | 46.9 |
| 1000000 | 37.9 | 43.9 | 41.1 | 42.8 | 43.6 | 46.9 | 43.9 |
| 1250000 | 34.9 | 40.9 | 38.1 | 39.8 | 40.6 | 43.9 | 40.9 |
| 1500000 | 31.9 | 37.9 | 35.1 | 36.8 | 37.6 | 40.9 | 37.9 |
| 2000000 | 28.9 | 34.9 | 32.1 | 33.8 | 34.6 | 37.9 | 34.9 |
| 2500000 | 25.9 | 31.9 | 29.1 | 30.8 | 31.6 | 34.9 | 31.9 |
| 3150000 | 22.9 | 28.9 | 26.1 | 27.8 | 28.6 | 31.9 | 28.9 |
| 4000000 | 19.9 | 25.9 | 23.1 | 24.8 | 25.6 | 28.9 | 25.9 |
| 5000000 | 16.9 | 22.9 | 20.1 | 21.8 | 22.6 | 25.9 | 22.9 |
| 6300000 | 13.9 | 19.9 | 17.1 | 18.8 | 19.6 | 22.9 | 19.9 |
| 8000000 | 10.9 | 16.9 | 14.1 | 15.8 | 16.6 | 19.9 | 16.9 |
| 10000000 | 7.9 | 13.9 | 11.1 | 12.8 | 13.6 | 16.9 | 13.9 |
| 12500000 | 4.9 | 10.9 | 8.1 | 9.8 | 10.6 | 13.9 | 10.9 |
| 15000000 | 1.9 | 7.9 | 5.1 | 6.8 | 7.6 | 10.9 | 7.9 |
| 20000000 | 0.9 | 4.9 | 2.1 | 3.8 | 4.6 | 7.9 | 4.9 |
| 25000000 | 0.4 | 2.4 | 1.0 | 1.9 | 2.3 | 4.9 | 2.4 |
| 31500000 | 0.2 | 1.2 | 0.5 | 0.9 | 1.1 | 2.4 | 1.2 |
| 40000000 | 0.1 | 0.6 | 0.2 | 0.4 | 0.5 | 1.2 | 0.6 |
| 50000000 | 0.0 | 0.3 | 0.1 | 0.2 | 0.3 | 0.6 | 0.3 |
| 63000000 | 0.0 | 0.1 | 0.0 | 0.1 | 0.1 | 0.3 | 0.1 |
| 80000000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 |
| 100000000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| GASPL | 114.7 | 115.3 | 114.5 | 113.9 | 114.0 | 115.2 | 115.2 | 117.1 | 122.9 | 128.5 | 129.7 | 126.7 | 125.6 | 166.7 |
| PWL | 127.1 | 127.4 | 126.6 | 126.3 | 126.0 | 127.2 | 127.5 | 129.5 | 135.8 | 140.6 | 140.6 | 136.9 | 136.6 | |
| PWL | 127.1 | 127.4 | 126.6 | 126.3 | 126.0 | 127.2 | 127.5 | 129.5 | 135.8 | 140.6 | 140.6 | 136.9 | 136.6 | |
| DBA | 192.4 | 197.4 | 195.0 | 196.1 | 197.1 | 200.6 | 197.2 | 197.5 | 209.9 | 211.9 | 210.1 | 199.1 | 197.7 | |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES
NASA SHOCK CELL/CNT. CONV. ANN. FLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH109 TEST DATE = 09-01-81 LOCAL = C41 ANECH CH CONFIG = 3 MODEL = 3 FLVEL = 400. FPS
IAPLHA = SB59 IEQA, = NO PWL AREA = FULL SPHERE TAMB F = 82.50 PAMB HG = 29.40 RELHUM = 64.0 PCT
WIND DIR = SB59 DEQ WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBRF =

FNINI = LBS XNL RPM XNH RPM XNHR = RPM V8 = 2413.4 FPS AEB = 25.3 SQ IN
FNRAMB = LBS XNLR RPM V8 = 2413.4 FPS AE18 = 0. SQ IN

RUNPT = -400-0310 TAPE = X0310F TEST PT NO = 0310 NC = 863 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-0310 X03101

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

| | | | | | | | | | | | | | | |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 50 | 71.5 | 74.5 | 73.9 | 74.4 | 75.1 | 77.7 | 79.2 | 82.0 | 86.8 | 93.1 | 94.1 | 92.1 | 85.6 | 168.4 |
| 63 | 74.0 | 75.0 | 75.7 | 75.4 | 77.0 | 78.2 | 79.6 | 83.3 | 87.1 | 95.1 | 96.5 | 92.3 | 85.5 | 169.8 |
| 80 | 73.0 | 75.6 | 76.5 | 77.0 | 77.6 | 78.3 | 80.2 | 82.9 | 88.1 | 95.7 | 96.9 | 92.2 | 85.3 | 170.3 |
| 100 | 74.8 | 77.2 | 77.4 | 77.4 | 78.8 | 79.8 | 80.3 | 82.5 | 89.3 | 97.0 | 98.2 | 92.0 | 87.3 | 171.4 |
| 125 | 77.3 | 77.2 | 77.5 | 78.0 | 79.9 | 80.6 | 81.4 | 83.1 | 90.2 | 97.0 | 98.2 | 91.5 | 86.8 | 171.5 |
| 160 | 78.5 | 79.7 | 79.7 | 80.0 | 82.9 | 82.5 | 84.2 | 90.9 | 96.7 | 98.1 | 91.0 | 86.5 | 171.6 | |
| 200 | 79.2 | 83.9 | 83.4 | 83.6 | 82.4 | 83.8 | 84.7 | 85.1 | 92.2 | 98.4 | 96.9 | 90.2 | 86.2 | 172.1 |
| 250 | 81.1 | 81.7 | 82.8 | 82.8 | 82.2 | 83.3 | 84.1 | 85.5 | 90.8 | 97.2 | 95.0 | 88.8 | 85.1 | 171.1 |
| 315 | 80.8 | 82.8 | 83.2 | 83.4 | 83.7 | 83.8 | 84.1 | 85.5 | 92.1 | 95.5 | 94.4 | 86.8 | 82.2 | 170.6 |
| 400 | 80.7 | 82.5 | 83.4 | 84.4 | 84.0 | 85.4 | 84.3 | 85.5 | 91.6 | 94.3 | 91.9 | 84.8 | 80.9 | 169.8 |
| 500 | 80.4 | 82.5 | 83.0 | 83.5 | 83.5 | 85.3 | 85.4 | 86.9 | 90.8 | 93.1 | 90.3 | 82.0 | 77.8 | 169.2 |
| 630 | 78.8 | 80.8 | 82.0 | 82.9 | 83.2 | 85.0 | 84.9 | 86.3 | 90.2 | 91.8 | 88.7 | 82.1 | 76.7 | 168.8 |
| 800 | 78.6 | 80.7 | 81.0 | 82.0 | 83.6 | 84.7 | 84.0 | 86.0 | 89.5 | 90.5 | 86.9 | 80.5 | 75.4 | 168.4 |
| 1000 | 78.2 | 82.2 | 81.6 | 81.6 | 82.5 | 84.0 | 84.1 | 85.6 | 88.8 | 89.1 | 85.7 | 80.5 | 75.1 | 168.4 |
| 1250 | 76.1 | 80.5 | 81.5 | 81.7 | 82.5 | 84.2 | 82.9 | 84.8 | 86.8 | 87.5 | 83.7 | 78.4 | 71.6 | 167.8 |
| 1600 | 74.9 | 78.1 | 79.6 | 80.5 | 81.5 | 82.6 | 81.9 | 81.6 | 85.6 | 85.3 | 81.4 | 75.6 | 69.1 | 167.4 |
| 2000 | 71.9 | 75.7 | 77.6 | 78.5 | 78.6 | 80.3 | 80.1 | 81.1 | 82.9 | 82.9 | 78.2 | 72.3 | 63.7 | 166.8 |
| 2500 | 67.0 | 72.5 | 74.8 | 75.4 | 76.0 | 78.0 | 76.9 | 77.6 | 79.8 | 79.1 | 73.8 | 67.9 | 55.6 | 166.2 |
| 3150 | 61.1 | 66.6 | 69.8 | 71.5 | 73.2 | 75.0 | 74.0 | 72.1 | 74.8 | 74.3 | 67.9 | 58.5 | 43.3 | 165.8 |
| 4000 | 53.3 | 60.6 | 63.8 | 65.0 | 66.2 | 68.4 | 67.3 | 65.6 | 69.5 | 67.0 | 60.4 | 46.1 | 24.0 | 166.4 |
| 5000 | 38.3 | 48.5 | 53.0 | 54.8 | 58.2 | 60.2 | 58.5 | 56.9 | 60.6 | 58.3 | 48.3 | 28.0 | | 167.7 |
| 6300 | 15.2 | 29.5 | 36.5 | 39.9 | 42.8 | 46.0 | 44.0 | 41.0 | 47.8 | 44.2 | 30.1 | 1.5 | | 170.8 |
| 8000 | | 9.5 | 15.9 | 20.9 | 24.1 | 21.9 | 18.1 | 27.3 | 18.5 | | | | | 175.4 |
| 10000 | | | | | | | | | | | | | | 173.0 |

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MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/CONT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH109 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIO = 3 TAMB F = 82.50 PAMB HG = 29.40 MODEL = 3 FLTVEL = 400. FPS
IAPLHA = SB59 LEGA = NO EXT DIST = 2400.0 FT EXT CONFIO = SL MIKE HT = NBFR = 64.0 PCT
WIND DIR = DEG WIND VEL = MPH
FNINI = LBS XNL RPM XNHR = RPM V8 = 2413.4 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2413.4 FPS AE18 = 0. SQ IN
RUNPT = 81F-400-0310 TAPE = X03101 TEST PT NO = 0310 NC = 863 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-0313 X0313C
BACKGROUND 81F-400-0300

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 84.9 84.7 82.7 82.3 82.4 85.7 86.1 87.5 91.2 94.1 94.4 94.1 95.8 131.8

63 88.2 88.8 87.8 88.6 90.4 93.3 91.7 91.3 94.3 99.4 99.5 97.9 100.3 136.6

80 91.8 96.6 90.8 91.9 93.0 96.3 96.2 96.5 96.2 98.5 101.0 102.6 108.4 138.4

100 91.3 97.6 93.1 94.9 95.5 96.6 97.0 97.4 97.5 101.2 106.9 109.0 110.0 143.5

125 87.9 89.6 91.7 93.4 94.8 96.9 97.0 97.4 97.5 101.2 106.9 109.0 110.0 143.5

160 87.3 87.6 90.3 90.9 90.7 92.6 95.2 96.9 98.6 103.6 107.8 110.5 112.4 144.8

200 89.0 88.6 89.8 92.3 94.6 94.7 96.1 98.5 101.6 107.1 112.9 116.0 117.1 151.8

250 88.8 88.6 92.3 92.8 94.6 94.7 96.1 98.5 101.6 107.1 112.9 116.0 117.1 151.8

315 89.3 91.6 92.1 93.2 94.0 94.1 96.1 98.5 101.6 107.1 112.9 116.0 117.1 151.8

400 91.1 93.4 93.1 94.7 94.3 98.6 101.8 106.4 112.3 119.2 120.8 120.8 117.7 155.8

500 91.4 94.0 94.5 95.3 95.9 96.5 101.4 104.8 111.0 118.8 121.0 120.6 117.3 155.6

630 93.1 95.3 95.6 96.4 97.5 99.1 102.0 106.4 111.4 121.2 123.1 121.0 118.2 157.2

800 97.2 96.7 96.8 97.5 98.6 100.3 102.1 106.3 112.9 121.3 123.0 121.0 117.0 157.3

1000 100.3 99.9 100.3 99.9 101.8 104.2 107.3 114.1 121.6 123.2 120.4 116.6 117.5

1250 100.5 104.8 103.5 103.1 103.2 103.5 105.2 108.3 114.7 121.6 123.2 119.2 114.7 157.4

1600 103.8 102.1 102.6 102.7 103.8 107.1 109.2 114.3 121.0 122.9 117.5 113.0 115.6

2000 104.6 103.7 102.9 102.6 103.6 105.7 109.4 114.8 122.2 120.8 115.9 111.4 115.6

2500 103.4 104.0 103.2 104.8 104.1 104.5 106.8 110.0 114.2 120.8 118.9 114.2 110.7 155.3

3150 102.7 103.8 103.3 103.6 104.2 106.5 107.1 109.8 114.7 119.4 118.5 112.7 108.8 154.6

4000 101.2 102.0 102.7 104.0 103.3 106.1 107.5 110.1 113.4 116.8 115.2 110.5 106.7 152.8

5000 101.4 101.0 102.5 103.2 103.6 105.4 107.5 110.1 113.4 116.8 115.2 110.5 106.7 152.8

6300 99.5 102.2 101.3 102.1 103.5 105.5 107.0 110.2 112.7 115.8 114.1 109.9 106.3 152.3

8000 97.8 100.4 101.6 101.8 104.6 106.5 109.2 111.6 115.2 112.3 108.1 107.1 103.7 151.1

10000 96.5 99.4 100.7 101.7 102.2 104.2 105.1 107.9 110.5 113.8 117.9 116.4 111.6 153.5

12500 95.1 97.8 99.0 99.6 101.1 102.6 103.3 105.6 109.2 111.1 109.7 105.1 101.0 149.9

16000 92.4 96.1 96.9 97.3 98.4 100.9 101.7 104.8 106.8 108.8 106.7 102.9 98.7 149.1

20000 90.1 93.1 94.0 95.6 96.5 98.5 99.3 101.4 103.8 106.8 104.4 100.9 96.1 148.4

25000 85.8 90.7 91.9 93.3 96.4 97.4 97.3 97.3 97.3 97.3 97.3 97.3 97.3 147.6

31500 81.4 86.6 86.6 86.4 87.5 89.5 92.9 93.5 94.7 96.3 100.1 98.2 93.5 147.5

40000 76.8 82.7 83.1 84.1 86.2 90.5 89.7 91.2 96.6 97.0 96.4 91.4 84.2 148.9

50000 72.5 78.2 81.0 81.9 86.9 88.9 82.7 85.1 92.4 97.9 94.2 84.9 79.0 156.6

63000 66.6 74.7 81.9 81.9 86.9 88.9 82.7 85.1 92.4 97.9 94.2 84.9 79.0 156.6

80000 62.8 66.6 66.6 66.4 67.5 69.5 92.9 93.5 94.7 96.3 100.1 98.2 93.5 147.5

QASPL 112.5 113.9 113.6 114.2 114.4 116.4 118.1 121.0 125.5 131.8 132.5 130.2 127.4 169.4

PNL 125.6 126.9 127.2 127.5 127.5 129.6 131.3 134.0 138.3 143.7 143.4 139.8 136.7

DBA 112.9 113.9 113.5 114.0 114.1 115.8 117.7 120.7 125.3 131.6 132.1 128.7 125.1

NASA SHOCK CELL/CONT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH096 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = 3
IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 76.00 MIKE HT = 29.45 RELHUM = 89.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC

FINI LBS XNL RPM = X0313C TEST PT NO = 0313 NC = 863 CORR FAN SPEED = RPM
FNRAMB LBS XNLR RPM = X0313C TEST PT NO = 0313 NC = 863 CORR FAN SPEED = RPM
V8 RPM = 2436.4 FPS AE8 = 25.3 SQ IN
V18 RPM = 2436.4 FPS AE18 = 25.3 SQ IN

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-0313 X0313F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL 84.9 84.7 82.7 82.3 82.4 85.7 86.1 87.5 91.2 94.1 94.4 94.1 95.8 131.8

50 84.9 84.7 82.7 82.3 82.4 85.7 86.1 87.5 91.2 94.1 94.4 94.1 95.8 131.8

63 88.2 88.8 87.8 88.6 90.4 93.3 91.7 91.3 94.3 99.4 99.5 97.9 100.3 136.6

80 91.8 96.6 90.8 91.9 93.0 96.3 96.2 95.4 96.5 98.2 98.5 101.0 102.6 138.4

100 91.3 97.6 93.1 94.9 95.5 96.6 97.5 98.7 97.8 99.2 100.8 104.8 105.9 140.9

125 87.9 89.6 91.7 93.4 94.8 96.9 97.0 97.4 97.5 101.2 106.9 109.0 110.0 143.5

160 87.3 87.6 90.3 90.9 90.7 92.6 95.2 96.9 98.6 103.6 107.8 110.5 112.4 144.8

200 89.0 88.6 90.9 92.5 96.3 96.5 98.4 103.3 105.6 109.0 113.5 115.1 117.1 147.3

250 88.0 88.6 89.8 92.3 94.6 94.7 96.1 98.5 101.6 107.1 112.9 116.0 117.1 151.8

315 89.3 91.6 92.1 93.2 94.0 98.1 100.3 102.9 107.7 114.4 116.6 118.5 117.2 152.5

400 91.1 93.4 93.1 94.7 94.3 98.6 101.8 106.4 112.3 119.2 120.8 120.8 117.7 155.8

500 91.4 94.0 94.5 95.3 95.9 98.5 101.4 104.8 111.0 118.8 121.0 120.6 117.3 155.6

600 93.1 95.3 95.6 96.4 97.5 99.1 102.0 106.4 111.4 121.2 123.1 121.0 118.2 157.2

800 97.2 96.7 96.8 97.5 98.6 100.3 102.1 106.3 112.9 121.3 123.0 121.1 117.0 157.3

1000 100.5 100.0 100.3 99.9 101.8 104.2 107.3 114.1 121.6 123.2 119.2 114.7 115.7 157.4

1250 100.5 104.8 103.5 103.1 103.2 103.5 105.2 108.3 114.7 121.6 123.2 119.2 114.7 157.4

1500 103.8 102.1 102.6 102.6 102.7 103.8 107.1 109.2 114.3 121.0 122.9 117.5 113.0 156.8

2000 104.2 104.6 103.7 102.9 102.0 103.6 105.7 109.4 114.8 122.2 120.8 115.9 111.4 156.5

2500 103.4 104.0 103.2 104.8 104.1 104.5 106.8 110.0 114.2 120.8 118.9 114.2 110.7 155.3

3150 102.7 103.8 103.3 103.6 104.2 106.5 107.1 109.8 114.7 119.4 118.5 112.7 108.8 154.6

4000 101.2 102.0 102.7 104.0 103.3 106.1 107.9 110.5 113.8 117.9 116.4 111.6 108.1 153.5

5000 101.4 101.0 102.5 103.2 103.5 105.5 107.0 110.2 112.7 115.8 114.1 109.9 106.3 152.3

6300 99.5 102.2 101.3 102.1 103.5 105.5 107.0 110.2 112.7 115.8 114.1 109.9 106.3 152.3

8000 97.8 100.4 100.9 101.6 101.8 104.6 106.5 109.2 111.6 115.2 112.3 108.2 104.5 151.7

10000 96.5 99.4 100.7 101.7 102.2 104.2 105.1 107.9 110.7 113.3 112.1 107.1 103.7 151.1

12500 95.1 97.8 99.0 99.6 101.1 102.6 103.3 105.6 109.2 111.1 109.7 105.1 101.0 149.9

16000 92.4 96.1 96.9 97.3 98.4 100.9 101.7 104.8 106.8 106.7 102.9 98.7 149.1

20000 90.1 93.1 94.0 95.6 95.9 98.5 99.3 101.4 103.8 106.8 104.4 100.9 96.1 148.4

25000 85.8 90.7 90.4 93.3 96.4 97.4 97.3 101.0 103.4 100.8 97.4 92.2 147.6

31500 81.4 86.6 86.4 87.5 89.5 92.9 93.5 94.7 98.3 100.1 98.2 93.5 147.5

40000 76.8 82.7 83.1 84.1 86.2 90.5 89.7 91.2 96.6 97.0 96.4 91.4 148.9

50000 72.5 78.2 81.0 81.1 85.9 88.9 82.7 85.1 92.4 97.9 94.2 84.9 156.6

63000 66.6 83.1 81.9 81.9 88.9 88.9 82.7 85.1 92.4 97.9 94.2 84.9 156.6

80000 62.8 86.6 86.6 86.6 86.6 86.6 86.6 86.6 86.6 86.6 86.6 86.6 162.6

QASPL 112.5 113.9 113.6 114.2 114.4 116.4 118.1 121.0 125.5 131.8 132.5 130.2 127.4 169.4

PWLT 125.6 127.9 126.5 127.2 127.5 129.6 131.3 134.0 138.3 143.7 143.4 139.8 136.7

DBA 184.1 206.8 193.3 204.8 196.0 210.8 200.6 203.0 212.9 217.2 212.6 203.3 198.5

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CONT. CONV. ANN. PLUG NGZ. SC-3/NAS3-22514

VEHICL = ADH096 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFID = 3 MODEL = 3 FLTVEL = 0. FPS

IAPLHA = SB59 IEQA' = NO PWL AREA = FULL SPHERE TAMB F = 76.00 PAMB HG = 29.45 RELHUM = 89.0 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXH CNFID = ARC MIKE HT = 29.45 NBFR = 0. FPS

FNINI = LBS XNL RPM XNHR = RPM V8 = 2436.4 FPS AE8 = 25.3 SQ IN

FNRAMB = LBS XNL RPM XNHR = RPM V8 = 2436.4 FPS AE8 = 25.3 SQ IN

RUNPT = 81F-ZER-0313 TAPE = X0313F TEST PT NO = 0313 NC = 863 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-0314 X03141

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 72.0 74.8 74.2 74.4 75.6 78.0 79.2 82.7 86.4 93.0 94.5 92.5 86.2 168.6 PWL

63 75.0 75.8 76.4 77.2 78.2 79.4 81.9 87.5 95.1 97.2 93.3 86.9 170.5

80 74.0 76.6 77.3 77.6 78.8 80.5 83.5 88.2 96.0 97.5 92.8 86.1 170.8

100 75.7 77.6 78.1 77.6 78.5 79.5 80.6 82.3 89.4 96.8 98.8 92.9 171.8

125 77.2 77.8 78.1 78.9 79.6 80.9 81.7 83.4 90.0 96.8 99.2 92.3 172.1

160 80.1 81.3 80.1 80.1 82.6 82.4 84.4 91.0 96.5 99.4 91.6 87.3 172.3

200 82.1 85.0 83.4 83.1 82.4 83.5 84.7 91.7 97.2 97.8 90.9 86.2 172.1

250 85.4 85.3 84.5 83.7 83.2 84.1 85.8 91.1 96.8 95.9 89.4 85.5 171.5

315 82.8 85.4 85.6 84.7 85.9 85.0 84.3 86.3 91.9 95.4 94.9 87.7 171.1

400 82.6 84.1 84.0 85.9 84.9 86.4 85.3 86.5 91.6 94.1 92.7 85.7 170.3

500 82.4 84.4 84.2 85.2 84.3 86.3 86.4 87.7 90.6 93.0 91.0 83.6 169.8

630 81.6 83.1 84.3 83.9 85.3 85.9 87.1 90.5 91.1 89.8 82.5 77.2 169.3

800 80.4 81.9 82.8 83.6 85.9 85.5 87.3 89.3 90.3 87.0 81.0 75.3 168.7

1000 79.5 82.7 82.6 83.1 83.0 84.5 85.1 86.6 88.8 89.2 86.2 80.7 168.8

1250 78.1 81.0 82.0 82.2 82.8 84.2 85.5 87.7 87.2 84.9 78.6 72.8 168.4

1600 76.2 79.1 80.8 82.0 81.5 82.6 82.4 83.5 85.9 85.2 82.2 76.4 167.9

2000 73.6 76.7 78.9 79.5 79.4 80.6 80.9 82.2 83.4 82.7 78.7 72.5 167.3

2500 68.8 73.5 75.5 76.2 77.0 78.3 77.7 78.3 80.5 78.8 74.6 68.0 166.7

3150 62.6 67.6 70.8 72.2 72.9 75.5 75.3 73.3 75.4 73.7 68.9 59.6 166.4

4000 52.0 60.1 63.3 65.1 66.9 68.4 67.6 66.9 70.3 66.8 60.3 46.8 166.6

5000 36.7 47.7 52.3 55.4 58.7 60.5 59.5 57.9 61.4 58.1 47.8 29.0 167.8

6300 17.0 30.7 38.3 41.9 44.3 47.5 45.0 42.5 48.8 45.7 30.6 1.0 172.0

8000 0.6 10.5 17.2 23.4 25.8 23.9 19.4 26.6 20.2 176.3 174.2

10000
12500
16000
20000
25000
31500
40000
50000
63000
80000

QASPL 92.6 94.4 94.4 94.8 94.8 95.9 96.1 97.6 102.0 106.6 107.6 101.7 96.4 184.6
PWL 98.2 100.5 101.6 102.3 102.3 103.6 103.7 104.9 108.7 111.5 110.1 104.6 98.0
PMLT 98.2 101.2 102.3 102.9 102.3 103.6 103.7 104.9 108.7 111.5 110.1 104.6 98.0
DBA 88.4 90.7 91.4 92.0 91.8 93.3 93.3 94.6 97.5 99.0 97.7 90.9 86.0

MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/COUNT, CONV, ANN, PLUG NOZ, SC-3/NAS3-22514

VEHICL = ADH108 TEST DATE = 09-01-81 LOCAL = C41 ANECH CH CONFIG = 3
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 82.50 MIKE HG = 29.40
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL
FNIN1 = LBS XNL = RPM XNH = RPM V8 = 2438.9 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2438.9 FPS AE18 = 0. SQ IN
RUNPT = 81F-400-0314 TAPE = X03141 TEST PT NO = 0314 NC = 863 CORR FAN SPEED = RPM

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IDENTIFICATION - MODEL 81F-ZER-0315
BACKGROUND 81F-400-0300

PWL

[illegible]

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-0315 X0315F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 85.7 85.2 83.7 84.5 84.4 85.5 85.9 88.3 90.7 94.1 93.9 94.9 95.8 131.9

63 89.2 89.0 89.3 91.3 92.4 92.3 92.2 92.8 94.8 100.9 99.0 98.9 100.3 137.3

80 91.5 96.6 91.3 92.4 93.5 95.8 95.7 95.1 97.0 98.8 101.0 102.4 138.4

100 91.8 97.8 93.4 95.2 95.7 96.9 98.0 99.4 98.5 99.7 101.3 105.0 106.2 141.3

125 88.4 90.4 91.9 94.2 95.3 97.7 97.5 97.9 98.3 101.7 107.6 109.5 110.5 144.1

160 87.3 88.3 90.6 91.4 91.0 92.6 94.7 96.9 99.1 104.4 108.3 110.5 112.6 145.0

200 89.5 88.6 90.1 91.1 93.5 96.3 97.0 98.6 103.8 106.1 109.8 113.7 115.4 147.6

250 89.3 92.6 94.9 95.2 96.3 98.2 102.1 107.1 113.1 116.8 118.5 117.6 152.3

315 89.3 91.4 91.6 93.2 94.3 98.4 100.5 102.9 108.0 115.2 117.3 118.8 117.7 153.0

400 91.8 93.4 94.9 95.0 98.6 101.8 106.2 112.6 119.4 121.1 120.8 117.4 156.0

500 91.7 94.0 94.5 95.5 95.9 98.7 101.4 105.0 110.7 119.1 121.2 120.4 117.0 155.7

630 93.1 95.1 95.6 96.4 97.5 99.6 102.5 106.2 111.7 120.7 123.1 120.7 117.9 157.0

800 97.7 96.7 96.8 97.5 98.4 100.8 102.9 107.6 113.8 122.1 122.5 119.7 116.3 157.2

1000 101.2 101.3 100.5 100.6 100.4 102.4 104.2 107.6 113.8 122.1 122.5 119.7 116.3 157.2

1250 102.0 105.3 104.3 103.8 103.9 103.8 105.4 108.3 113.9 121.9 123.0 118.7 114.4 157.3

1600 106.8 104.6 104.3 103.4 102.7 104.1 106.6 109.2 114.3 121.8 122.4 116.7 112.5 156.9

2000 107.2 107.3 106.2 105.6 104.3 105.7 108.7 115.0 122.4 120.3 114.6 111.1 115.5 156.5

2500 105.4 106.5 106.2 107.3 106.6 105.7 107.0 109.8 114.2 121.6 118.4 113.2 110.0 155.7

3150 104.7 106.1 105.1 105.8 106.7 108.8 107.4 110.1 114.4 120.4 118.2 111.9 108.3 155.1

4000 103.0 103.7 104.5 105.3 105.8 108.5 110.5 113.4 118.4 115.9 110.8 107.1 153.8

5000 101.1 102.4 104.5 105.2 106.6 108.5 110.6 113.4 118.4 115.5 110.8 107.1 153.8

6300 100.5 102.7 102.3 102.9 104.5 107.0 108.0 110.7 112.5 116.6 114.4 108.4 105.3 152.7

8000 98.3 100.9 101.7 102.6 103.3 106.1 107.5 110.2 111.4 115.7 112.6 107.2 104.8 152.1

10000 97.2 99.6 100.9 101.9 102.7 105.2 105.8 108.9 111.0 114.1 111.8 106.6 103.7 151.6

12500 96.1 98.3 99.3 100.1 101.4 103.6 104.6 106.8 109.2 112.3 110.4 103.6 101.2 150.7

16000 92.9 96.4 96.9 97.5 98.9 101.1 102.5 105.5 106.8 109.8 107.3 102.2 98.9 149.6

20000 90.3 93.6 94.2 95.6 96.4 96.9 98.1 101.9 104.1 107.6 104.7 100.2 96.1 148.8

25000 86.6 90.9 92.9 93.8 96.9 98.1 98.5 101.0 104.2 100.1 97.1 92.5 148.0

31500 82.2 86.6 87.2 89.0 89.5 93.2 93.5 95.2 98.3 101.1 97.9 89.0 88.4 147.9

40000 77.8 82.9 83.8 86.4 86.4 90.5 89.9 92.7 96.1 98.0 96.2 89.9 84.7 149.3

50000 73.3 78.3 78.4 88.0 88.0 89.7 85.9 88.8 93.4 97.6 94.1 87.0 79.8 151.9

63000 67.6 83.6 83.6 89.4 89.4 89.7 83.7 86.8 92.9 97.7 93.2 84.2 79.2 156.9

80000 63.3 87.6 87.6 88.0 88.0 89.5 85.1 84.3 92.9 96.4 91.3 82.2 78.1 163.0

GASPL 114.4 115.3 115.0 115.6 115.7 117.5 118.6 121.3 125.5 132.2 132.4 129.9 127.3 169.6

PNL 127.3 128.5 128.0 128.8 129.2 131.0 131.9 134.2 138.2 144.3 143.3 139.2 136.3

PNLT 127.3 129.2 128.0 128.8 129.2 131.0 131.9 134.2 138.2 144.3 143.3 139.2 136.3

DBA 184.8 207.8 194.0 210.0 197.8 211.3 201.9 205.1 213.4 217.0 212.0 203.0 198.7

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADG097 TEST DATE = 09-01-81
IAPLHA = SB59 IEGA = NO
WIND DIR = DEG WIND VEL = MPH
LOCAT = C41 ANECH CH CONFIO = 3
TAMB F = 76.00 PAMB HG = 29.40
FLVEL = 0. FPS
RELHUM = 89.0 PCT
NBFR =

FNINI = LBS XNL RPM XNHR =
FNRAMB = LBS XNL RPM XNHR =
V8 RPM V8 = 2452.0 FPS AE8 = 25.3 SQ IN
FPS AE8 = 0. SQ IN

TEST PT NO = 0315 NC = 863 CORR FAN SPEED = RPM

RUNPT = 81F-ZER-0315 TAPE = X0315F

HONEYWELL PAGE PRINTING SYSTEM - D118-01

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-0315 X03151

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|-------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|
| 50 | 69.8 | 72.9 | 74.0 | 76.2 | 76.7 | 80.5 | 83.5 | 87.5 | 93.2 | 99.0 | 99.1 | 96.6 | 89.9 |
| 63 | 69.7 | 73.5 | 75.1 | 76.8 | 77.6 | 80.6 | 83.1 | 86.3 | 91.3 | 98.6 | 99.2 | 96.1 | 89.4 |
| 80 | 71.0 | 74.6 | 76.2 | 77.7 | 79.2 | 81.4 | 84.2 | 87.4 | 92.2 | 100.1 | 101.0 | 96.4 | 90.2 |
| 100 | 75.5 | 76.1 | 77.2 | 78.8 | 80.0 | 82.5 | 84.5 | 87.8 | 93.3 | 101.0 | 101.0 | 96.5 | 88.7 |
| 125 | 76.9 | 78.9 | 80.6 | 81.7 | 82.0 | 84.0 | 85.7 | 88.7 | 94.2 | 101.4 | 100.2 | 95.1 | 88.2 |
| 160 | 79.5 | 84.4 | 84.6 | 84.8 | 85.4 | 85.4 | 86.9 | 89.3 | 94.2 | 101.0 | 100.5 | 93.9 | 86.0 |
| 200 | 84.0 | 83.5 | 84.4 | 84.2 | 84.0 | 85.5 | 87.8 | 90.1 | 94.4 | 100.7 | 99.7 | 91.6 | 83.5 |
| 250 | 84.1 | 86.0 | 86.1 | 86.2 | 84.5 | 85.5 | 86.8 | 89.5 | 94.9 | 101.1 | 97.2 | 89.0 | 81.5 |
| 315 | 81.9 | 84.8 | 85.8 | 87.6 | 87.4 | 86.7 | 87.9 | 90.1 | 93.8 | 99.9 | 95.0 | 87.1 | 79.6 |
| 400 | 80.8 | 84.0 | 84.3 | 85.9 | 87.2 | 89.4 | 87.9 | 90.1 | 93.6 | 98.3 | 94.3 | 85.2 | 76.9 |
| 500 | 78.5 | 81.2 | 83.4 | 85.6 | 88.2 | 89.2 | 89.2 | 92.7 | 96.0 | 91.5 | 83.5 | 74.7 | 171.2 |
| 630 | 76.2 | 79.6 | 81.2 | 83.9 | 85.1 | 86.7 | 88.5 | 90.0 | 91.9 | 94.6 | 90.1 | 80.7 | 170.6 |
| 800 | 75.0 | 79.4 | 80.6 | 82.0 | 84.2 | 86.9 | 87.7 | 89.9 | 90.7 | 93.3 | 88.9 | 79.6 | 170.2 |
| 1000 | 72.4 | 77.4 | 79.7 | 81.6 | 82.9 | 85.9 | 87.1 | 89.2 | 89.4 | 92.2 | 86.7 | 77.8 | 169.6 |
| 1250 | 70.9 | 75.8 | 78.7 | 80.8 | 82.1 | 84.8 | 85.2 | 87.7 | 88.7 | 90.2 | 85.5 | 76.3 | 169.0 |
| 1600 | 68.9 | 73.8 | 76.6 | 78.6 | 80.5 | 83.0 | 83.7 | 85.3 | 86.5 | 87.9 | 83.2 | 72.0 | 168.1 |
| 2000 | 64.7 | 71.3 | 73.8 | 75.8 | 77.9 | 80.3 | 81.5 | 83.8 | 84.7 | 84.7 | 79.0 | 68.9 | 167.1 |
| 2500 | 60.3 | 67.3 | 70.3 | 73.2 | 74.9 | 77.9 | 78.3 | 79.4 | 80.1 | 81.3 | 74.7 | 64.1 | 166.3 |
| 3150 | 53.2 | 62.2 | 65.1 | 68.9 | 70.8 | 74.3 | 75.2 | 74.6 | 75.2 | 75.4 | 66.7 | 56.1 | 165.4 |
| 4000 | 42.6 | 53.2 | 57.6 | 62.7 | 63.6 | 67.7 | 67.6 | 67.9 | 68.7 | 67.6 | 58.3 | 43.0 | 165.4 |
| 5000 | 28.4 | 41.9 | 48.0 | 55.7 | 55.5 | 60.2 | 59.0 | 60.0 | 60.2 | 56.9 | 46.8 | 26.2 | 166.7 |
| 6300 | 6.1 | 26.2 | 30.5 | 44.6 | 41.1 | 49.6 | 44.9 | 45.3 | 45.5 | 42.4 | 27.0 | 169.3 | 174.3 |
| 8000 | | | | | | | | | | | | | |
| 10000 | | | | | | | | | | | | | |
| 12500 | | | | | | | | | | | | | |
| 16000 | | | | | | | | | | | | | |
| 20000 | | | | | | | | | | | | | |
| 25000 | | | | | | | | | | | | | |
| 31500 | | | | | | | | | | | | | |
| 40000 | | | | | | | | | | | | | |
| 50000 | | | | | | | | | | | | | |
| 63000 | | | | | | | | | | | | | |
| 80000 | | | | | | | | | | | | | |

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MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/CONT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADG097 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = 3 FLTVEL = 0. FPS
IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 76.00 PAMB HG = 29.40 RELHUM = 89.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIG = SL MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2452.0 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNLR = RPM

RUNPT = 81 7-0315 TAPE = X03151 TEST PT NO = 0315 NC = 863 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-0316 X0316C
BACKGROUND 81F-400-0300 X03000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 89.2 87.5 84.0 83.3 84.4 85.2 85.9 87.5 90.9 94.1 96.2 95.6 99.3 133.2

63 90.0 90.3 90.0 88.1 91.4 92.0 91.7 91.8 94.3 101.6 100.0 99.7 100.3 137.6

80 92.0 97.3 91.8 93.1 93.7 95.8 96.0 96.1 96.3 95.4 98.3 99.7 103.1 138.4

100 91.6 96.3 91.9 93.7 94.7 96.1 97.0 98.2 97.5 97.7 99.6 104.3 105.9 140.2

125 88.6 90.6 91.9 93.4 94.8 96.7 97.3 96.9 96.5 99.2 105.1 108.5 109.7 142.8

150 87.3 85.3 88.8 89.5 91.1 92.7 94.6 96.8 101.9 106.8 109.0 112.1 143.7

200 87.5 87.1 87.6 87.9 90.2 92.8 93.7 96.9 103.1 107.0 112.2 114.4 145.9

250 86.8 89.1 89.9 91.5 95.1 97.8 100.9 105.3 112.4 114.8 117.3 119.4 150.8

315 86.8 89.1 89.9 91.5 95.1 97.8 100.9 105.3 112.4 114.8 117.3 119.4 150.8

400 89.1 90.1 91.4 91.7 92.8 96.1 99.3 103.4 110.1 116.7 118.6 119.0 153.5

500 88.4 91.0 91.8 92.8 93.6 96.3 98.9 103.0 108.2 116.8 119.0 118.1 153.2

630 90.1 92.6 92.9 93.7 94.7 96.6 100.0 104.4 109.2 118.7 121.3 118.0 154.8

800 92.5 95.3 94.5 95.8 97.8 99.8 103.5 109.9 116.3 121.7 116.3 115.4 154.9

1000 98.2 99.0 97.0 97.3 97.2 98.5 101.4 104.6 110.9 120.1 122.5 115.9 155.6

1250 102.0 104.3 100.6 100.3 99.9 100.3 101.9 105.3 112.0 120.1 122.0 114.2 155.4

1600 106.8 105.6 103.1 100.2 101.6 104.1 106.5 112.4 120.0 114.7 114.7 115.5 155.8

2000 104.2 106.6 107.5 107.1 103.7 102.3 103.2 106.9 112.5 120.4 121.0 113.4 155.5

2500 102.7 103.2 104.0 106.0 106.6 106.0 105.1 107.8 112.3 119.1 118.9 111.2 154.1

3150 102.3 103.3 102.8 103.1 104.2 108.3 106.9 108.1 112.9 118.4 118.5 109.7 153.8

4000 100.0 101.0 102.5 103.8 102.4 107.7 109.5 112.1 116.7 115.7 115.3 107.3 152.3

5000 98.6 99.7 100.2 101.7 102.9 103.9 106.3 109.6 112.6 115.5 115.3 107.3 151.9

6300 98.3 100.7 99.9 101.1 102.3 104.0 106.0 109.5 112.5 114.1 114.2 107.0 151.4

8000 96.8 98.5 99.5 100.1 100.4 103.2 105.3 109.0 111.7 113.3 112.2 105.5 150.7

10000 96.3 98.0 99.6 99.3 100.5 102.8 104.1 107.7 111.1 112.4 111.2 105.4 150.4

12500 95.5 96.7 97.9 98.2 99.0 101.3 102.7 105.7 109.4 110.5 109.6 104.3 149.5

16000 92.6 94.9 95.9 96.3 96.4 98.8 101.2 104.5 107.5 108.1 106.8 101.7 148.7

20000 90.7 92.3 94.5 94.5 96.6 98.4 101.5 104.5 105.8 104.3 100.0 92.7 147.9

25000 86.6 89.3 90.2 91.2 92.3 95.4 96.7 97.6 101.6 102.8 100.9 88.7 147.4

31500 82.4 85.7 86.0 87.5 88.5 91.4 93.3 95.0 98.7 100.0 98.2 93.3 147.5

40000 77.6 81.1 83.3 83.8 85.2 87.8 89.2 91.6 96.1 96.6 96.1 88.9 148.4

50000 73.1 76.5 77.8 79.2 80.5 84.0 85.0 87.5 93.5 95.6 93.9 84.9 150.3

63000 67.2 74.3 74.3 75.9 77.9 79.6 82.1 83.1 92.0 95.5 93.0 80.3 154.5

80000 63.2 75.1 71.9 72.1 76.1 76.7 78.8 79.6 89.2 95.6 91.0 75.4 160.2

OASPL 112.6 113.8 113.8 114.1 113.8 115.4 116.7 119.6 123.9 130.1 131.6 127.4 123.3 167.7

PNL 125.1 126.4 126.7 127.3 127.5 129.5 130.2 132.7 136.6 142.2 142.9 137.1 131.3

PMLT 126.3 126.4 126.7 127.3 127.5 130.0 130.2 132.7 137.2 142.8 143.6 137.1 131.3

DBA 113.1 114.1 114.1 114.3 113.8 115.2 116.3 119.1 123.5 130.0 131.3 125.4 118.4

NASA SHOCK CELL/COUNT, CONV. ANN. FLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH107 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = 3
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 62.50 PAMB HG = 29.43 RELHUM = 64.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR = 400. FPS

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2448.8 FPS AEG = 25.3 SQ IN
FNRMAMB = LBS XNLR RPM V18 = 2448.8 FPS AE18 = 0. SQ IN
CORR FAN SPEED = RPM

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OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-0316 X0316F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

FREQ

50

63

80

100

125

160

200

250

315

400

500

630

800

1000

1250

1600

2000

2500

3150

4000

5000

6300

8000

10000

12500

16000

20000

25000

31500

40000

50000

63000

80000

DBA

PWL

PWL

DBA

DBA

DBA

DBA

DBA

DBA

DBA

DBA

DBA

DBA

DBA

DBA

DATPRGC - FLTRAN

ORIGINAL PAGE 18
OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH107 TEST, DATE = 09-01-81
IAPLHA = SB59 IEQA = NO
WIND DIR = DEG WIND VEL = MPH
LOCAT = C41 ANECH CH CONFIO = 3
TAMB F = FULL SPHERE
EXT AREA = 40.0 FT
EXT DIST = 40.0 FT
EXT CONFIO = ARC
MIKE HT = 29.43
PAMB HG = 29.43
RELHUM = 64.0 PCT
NBFR =
FLTVEL = 400. FPS

FNINI = LBS XNL RPM XNH XNHR =
FNRAMB = LBS XNLR RPM XNH XNHR =
FINI = LBS XNL RPM XNH XNHR =
FNIN1 = LBS XNL RPM XNH XNHR =

PRINT = -400-0316 TAPE = X0316F
TEST PT NG = 031
NC = 863
CORR FAN SPEED = RPM

ONEWELL PAGE PRINTING SYSTEM- P118-0

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-0316 X03161

ANGLES MEASURED FROM INLET, DEGREES

251

| FREQ | 50 | 63 | 80 | 100 | 125 | 160 | 200 | 250 | 315 | 400 | 500 | 630 | 800 | 1000 | 1250 | 16000 | 20000 | 25000 | 31500 | 40000 | 50000 | 63000 | 80000 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PWL | 72.5 | 74.7 | 76.0 | 76.9 | 76.4 | 77.2 | 78.4 | 79.1 | 80.4 | 81.1 | 81.0 | 83.1 | 84.1 | 84.9 | 85.4 | 86.1 | 86.6 | 87.3 | 87.5 | 87.7 | 88.6 | 89.0 | 89.3 |
| 80 | 74.0 | 76.9 | 77.3 | 77.5 | 78.4 | 78.8 | 80.7 | 81.5 | 82.6 | 83.5 | 84.0 | 86.3 | 87.5 | 88.1 | 88.8 | 89.4 | 90.4 | 91.2 | 91.8 | 92.4 | 93.0 | 93.6 | 94.1 |
| 100 | 75.6 | 78.4 | 78.4 | 79.1 | 80.0 | 80.4 | 82.6 | 83.5 | 84.1 | 84.8 | 85.1 | 87.7 | 89.1 | 89.2 | 90.4 | 91.0 | 91.8 | 92.0 | 92.3 | 92.6 | 93.0 | 93.4 | 93.8 |
| 125 | 77.7 | 78.2 | 78.7 | 79.2 | 80.3 | 80.9 | 82.2 | 83.6 | 84.1 | 84.8 | 85.0 | 87.0 | 88.9 | 89.1 | 90.4 | 91.2 | 91.8 | 92.0 | 92.3 | 92.6 | 93.0 | 93.4 | 93.8 |
| 160 | 81.9 | 83.2 | 81.1 | 81.0 | 83.1 | 82.7 | 82.7 | 82.7 | 84.4 | 84.4 | 84.9 | 86.9 | 88.9 | 89.1 | 90.4 | 91.2 | 91.8 | 92.0 | 92.3 | 92.6 | 93.0 | 93.4 | 93.8 |
| 200 | 86.1 | 88.8 | 84.9 | 84.1 | 83.5 | 84.0 | 84.9 | 85.6 | 86.6 | 87.2 | 87.5 | 89.1 | 89.2 | 90.4 | 91.0 | 91.8 | 92.0 | 92.3 | 92.6 | 93.0 | 93.4 | 93.8 | 94.1 |
| 250 | 90.9 | 90.5 | 90.1 | 87.0 | 86.9 | 84.8 | 84.1 | 86.1 | 86.5 | 86.9 | 87.0 | 87.7 | 89.1 | 89.2 | 90.4 | 91.0 | 91.8 | 92.0 | 92.3 | 92.6 | 93.0 | 93.4 | 93.8 |
| 315 | 86.5 | 89.8 | 89.8 | 91.0 | 90.4 | 90.3 | 88.5 | 86.0 | 87.0 | 87.0 | 87.0 | 87.7 | 89.1 | 89.2 | 90.4 | 91.0 | 91.8 | 92.0 | 92.3 | 92.6 | 93.0 | 93.4 | 93.8 |
| 400 | 86.3 | 87.7 | 88.6 | 90.2 | 88.0 | 88.0 | 88.0 | 88.0 | 88.0 | 88.0 | 88.0 | 88.0 | 88.0 | 88.0 | 88.0 | 88.0 | 88.0 | 88.0 | 88.0 | 88.0 | 88.0 | 88.0 | 88.0 |
| 500 | 85.4 | 87.5 | 87.3 | 87.2 | 86.3 | 87.5 | 87.5 | 87.5 | 87.5 | 87.5 | 87.5 | 87.5 | 87.5 | 87.5 | 87.5 | 87.5 | 87.5 | 87.5 | 87.5 | 87.5 | 87.5 | 87.5 | 87.5 |
| 630 | 82.6 | 84.8 | 86.6 | 87.9 | 86.9 | 87.0 | 87.7 | 89.1 | 89.2 | 90.4 | 91.0 | 91.8 | 92.0 | 92.3 | 92.6 | 93.0 | 93.4 | 93.8 | 94.1 | 94.8 | 95.9 | 97.3 | 98.9 |
| 800 | 80.6 | 83.2 | 84.3 | 85.8 | 86.1 | 86.9 | 87.2 | 88.7 | 89.1 | 90.4 | 91.0 | 91.8 | 92.0 | 92.3 | 92.6 | 93.0 | 93.4 | 93.8 | 94.1 | 94.8 | 95.9 | 97.3 | 98.9 |
| 1000 | 79.7 | 83.7 | 83.6 | 84.8 | 84.0 | 86.0 | 86.3 | 88.1 | 88.8 | 89.4 | 90.4 | 91.0 | 91.8 | 92.0 | 92.3 | 92.6 | 93.0 | 93.4 | 93.8 | 94.1 | 94.8 | 95.9 | 97.3 |
| 1250 | 77.6 | 81.0 | 82.8 | 83.5 | 84.0 | 85.4 | 85.1 | 86.7 | 86.8 | 88.0 | 88.8 | 88.0 | 88.8 | 88.8 | 88.8 | 88.8 | 88.8 | 88.8 | 88.8 | 88.8 | 88.8 | 88.8 | 88.8 |
| 1600 | 75.9 | 79.6 | 81.3 | 82.0 | 82.2 | 83.6 | 83.4 | 84.4 | 87.3 | 85.8 | 82.3 | 76.3 | 69.6 | 68.6 | 68.6 | 68.6 | 68.6 | 68.6 | 68.6 | 68.6 | 68.6 | 68.6 | 68.6 |
| 2000 | 73.6 | 77.2 | 79.6 | 80.2 | 79.4 | 81.1 | 82.0 | 83.2 | 84.2 | 83.2 | 79.2 | 73.3 | 64.2 | 67.9 | 68.5 | 68.6 | 68.6 | 68.6 | 68.6 | 68.6 | 68.6 | 68.6 | 68.6 |
| 2500 | 68.5 | 73.8 | 76.3 | 77.2 | 77.0 | 78.3 | 78.5 | 79.3 | 81.0 | 79.6 | 74.5 | 68.7 | 59.3 | 43.5 | 66.9 | 62.6 | 60.9 | 67.2 | 71.0 | 67.2 | 60.9 | 46.3 | 24.7 |
| 3150 | 62.6 | 68.1 | 71.3 | 73.2 | 74.0 | 75.8 | 75.4 | 73.9 | 76.7 | 74.7 | 68.7 | 59.3 | 43.5 | 66.9 | 62.6 | 60.9 | 67.2 | 71.0 | 67.2 | 60.9 | 46.3 | 24.7 | 167.4 |
| 4000 | 54.3 | 61.9 | 65.3 | 67.0 | 67.2 | 68.9 | 68.8 | 67.8 | 71.0 | 67.2 | 60.9 | 46.3 | 24.7 | 167.4 | 168.9 | 168.9 | 168.9 | 168.9 | 168.9 | 168.9 | 168.9 | 168.9 | 168.9 |
| 5000 | 39.5 | 50.0 | 54.0 | 57.1 | 58.9 | 60.5 | 59.5 | 44.0 | 50.0 | 45.7 | 31.6 | 1.3 | | | | | | | | | | | |
| 6300 | 16.5 | 30.7 | 38.8 | 42.1 | 44.1 | 46.7 | 45.5 | 24.4 | 20.4 | 27.3 | 22.4 | 0.5 | | | | | | | | | | | |
| 8000 | 0.4 | 11.0 | 17.4 | 23.4 | 24.6 | 24.6 | 24.4 | 20.4 | 27.3 | 22.4 | 0.5 | | | | | | | | | | | | |

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MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9
NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514
VEHICL = ADH107 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = 3 PAMB HG = 29.43 FLTVL = 400. FPS
IAPLHA = SB59 IECA / = NO PWL AREA = FULL SPHERE TAMB F = 82.50 MIKE HT = 29.43 RELHUM = 64.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL FPS AE18 = 25.3 SQ IN
FNINI = LBS XNLR = RPM XNHR = RPM V8 = 2448.8 FPS AE18 = 25.3 SQ IN
FNAMB = LBS XNLR = RPM XNHR = RPM V8 = 2448.8 FPS AE18 = 25.3 SQ IN
CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-0321 X0321C BACKGROUND 81F-400-0300

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FREQ | 50 | 63 | 80 | 100 | 125 | 160 | 200 | 250 | 315 | 400 | 500 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 2500 | 3150 | 4000 | 5000 | 6300 | 8000 | 10000 | 12500 | 16000 | 20000 | 25000 | 31500 | 40000 | 50000 | 63000 | 80000 | DBA | | | |
| | 67.2 | 67.5 | 69.2 | 72.3 | 71.5 | 78.6 | 87.8 | 87.6 | 89.8 | 92.9 | 94.1 | 95.8 | 96.1 | 97.7 | 97.0 | 97.5 | 98.9 | 99.2 | 99.9 | 101.5 | 103.1 | 104.5 | 105.4 | 106.5 | 107.8 | 109.2 | 110.6 | 112.1 | 113.2 | 114.7 | 116.4 | 118.6 | 120.7 | 123.3 | 125.7 | 128.9 | 132.6 |
| | 67.0 | 68.0 | 69.8 | 72.6 | 71.9 | 79.1 | 88.3 | 88.1 | 90.3 | 93.3 | 94.5 | 96.6 | 96.6 | 97.9 | 97.5 | 98.9 | 99.2 | 100.9 | 102.7 | 104.1 | 105.9 | 107.3 | 108.4 | 109.7 | 111.1 | 112.5 | 114.0 | 115.4 | 116.9 | 118.6 | 120.9 | 123.2 | 125.6 | 128.0 | 130.4 | 132.8 | 136.9 |
| | 64.8 | 66.0 | 68.1 | 71.6 | 71.3 | 79.2 | 88.3 | 88.2 | 90.6 | 93.6 | 94.8 | 96.9 | 96.8 | 98.2 | 97.8 | 99.2 | 99.9 | 101.6 | 103.4 | 104.9 | 106.6 | 108.0 | 109.4 | 110.7 | 112.1 | 113.5 | 115.0 | 116.4 | 118.0 | 120.3 | 122.6 | 124.9 | 127.2 | 129.6 | 132.0 | 134.4 | 138.9 |
| | 84.1 | 82.4 | 83.0 | 87.1 | 82.4 | 91.0 | 93.1 | 93.4 | 95.7 | 98.3 | 99.6 | 102.8 | 102.8 | 104.7 | 103.1 | 104.5 | 106.5 | 108.0 | 110.0 | 111.4 | 112.7 | 114.1 | 115.4 | 116.8 | 118.2 | 119.6 | 121.0 | 122.4 | 123.8 | 125.2 | 126.6 | 128.0 | 129.4 | 130.8 | 132.2 | 134.6 | 139.1 |
| | 86.0 | 86.4 | 89.5 | 90.9 | 90.9 | 98.8 | 99.9 | 99.9 | 101.0 | 103.4 | 104.7 | 106.9 | 106.9 | 108.2 | 106.6 | 108.0 | 109.8 | 111.2 | 112.6 | 114.1 | 115.5 | 116.9 | 118.3 | 119.7 | 121.1 | 122.5 | 123.9 | 125.3 | 126.7 | 128.1 | 129.5 | 130.9 | 132.3 | 133.7 | 135.1 | 137.5 | 141.9 |
| | 86.0 | 86.4 | 89.5 | 90.9 | 90.9 | 98.8 | 99.9 | 99.9 | 101.0 | 103.4 | 104.7 | 106.9 | 106.9 | 108.2 | 106.6 | 108.0 | 109.8 | 111.2 | 112.6 | 114.1 | 115.5 | 116.9 | 118.3 | 119.7 | 121.1 | 122.5 | 123.9 | 125.3 | 126.7 | 128.1 | 129.5 | 130.9 | 132.3 | 133.7 | 135.1 | 137.5 | 141.9 |
| | 86.0 | 86.4 | 89.5 | 90.9 | 90.9 | 98.8 | 99.9 | 99.9 | 101.0 | 103.4 | 104.7 | 106.9 | 106.9 | 108.2 | 106.6 | 108.0 | 109.8 | 111.2 | 112.6 | 114.1 | 115.5 | 116.9 | 118.3 | 119.7 | 121.1 | 122.5 | 123.9 | 125.3 | 126.7 | 128.1 | 129.5 | 130.9 | 132.3 | 133.7 | 135.1 | 137.5 | 141.9 |
| | 86.0 | 86.4 | 89.5 | 90.9 | 90.9 | 98.8 | 99.9 | 99.9 | 101.0 | 103.4 | 104.7 | 106.9 | 106.9 | 108.2 | 106.6 | 108.0 | 109.8 | 111.2 | 112.6 | 114.1 | 115.5 | 116.9 | 118.3 | 119.7 | 121.1 | 122.5 | 123.9 | 125.3 | 126.7 | 128.1 | 129.5 | 130.9 | 132.3 | 133.7 | 135.1 | 137.5 | 141.9 |
| | 86.0 | 86.4 | 89.5 | 90.9 | 90.9 | 98.8 | 99.9 | 99.9 | 101.0 | 103.4 | 104.7 | 106.9 | 106.9 | 108.2 | 106.6 | 108.0 | 109.8 | 111.2 | 112.6 | 114.1 | 115.5 | 116.9 | 118.3 | 119.7 | 121.1 | 122.5 | 123.9 | 125.3 | 126.7 | 128.1 | 129.5 | 130.9 | 132.3 | 133.7 | 135.1 | 137.5 | 141.9 |
| | 86.0 | 86.4 | 89.5 | 90.9 | 90.9 | 98.8 | 99.9 | 99.9 | 101.0 | 103.4 | 104.7 | 106.9 | 106.9 | 108.2 | 106.6 | 108.0 | 109.8 | 111.2 | 112.6 | 114.1 | 115.5 | 116.9 | 118.3 | 119.7 | 121.1 | 122.5 | 123.9 | 125.3 | 126.7 | 128.1 | 129.5 | 130.9 | 132.3 | 133.7 | 135.1 | 137.5 | 141.9 |
| PWL | 132.6 | 137.1 | 139.2 | 141.5 | 144.2 | 147.2 | 149.5 | 151.5 | 153.5 | 155.4 | 156.4 | 157.8 | 157.8 | 158.1 | 158.0 | 157.6 | 157.0 | 156.6 | 155.8 | 154.7 | 154.1 | 153.4 | 152.9 | 152.3 | 151.1 | 150.4 | 149.7 | 148.9 | 149.0 | 149.0 | 148.4 | 147.4 | 146.4 | 145.1 | 143.9 | 142.5 | |
| PWL | 132.6 | 137.1 | 139.2 | 141.5 | 144.2 | 147.2 | 149.5 | 151.5 | 153.5 | 155.4 | 156.4 | 157.8 | 157.8 | 158.1 | 158.0 | 157.6 | 157.0 | 156.6 | 155.8 | 154.7 | 154.1 | 153.4 | 152.9 | 152.3 | 151.1 | 150.4 | 149.7 | 148.9 | 149.0 | 149.0 | 148.4 | 147.4 | 146.4 | 145.1 | 143.9 | 142.5 | |

NASA SHOCK CELL/CONT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICLE = ADH098 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = 3 FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 76.00 PAMB HG = 29.40 RELHUM = 89.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FINI1 = LBS XNL RPM XNH XNHR = RPM V8 = 2486.5 FPS AE8 = 25.3 SO IN
FNRAMB = LBS XNL RPM V18 = 863 CORR FAN SPEED = RPM

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OF POOR QUALITY

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DATPROC - FLTRAN

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-0321 X0321F

ANGLES MEASURED FROM INLET, DEGREES

| | | | | | | | | | | | | | | |
|--|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL |
| 50 | 67.2 | 67.0 | 66.0 | 64.8 | 64.1 | 66.0 | 66.4 | 69.5 | 90.9 | 94.1 | 95.2 | 95.1 | 96.8 | 132.6 |
| 63 | 90.5 | 91.5 | 92.3 | 91.8 | 92.4 | 93.0 | 91.9 | 92.1 | 94.8 | 99.7 | 99.7 | 99.6 | 137.1 | |
| 80 | 92.5 | 93.4 | 93.2 | 93.1 | 97.1 | 97.0 | 96.1 | 97.2 | 99.3 | 101.2 | 103.1 | 103.2 | 139.2 | |
| 100 | 92.3 | 93.9 | 93.6 | 95.4 | 95.7 | 98.2 | 98.3 | 99.7 | 101.8 | 105.3 | 106.4 | 106.4 | 141.5 | |
| 125 | 88.6 | 90.9 | 92.4 | 94.2 | 95.5 | 97.4 | 97.8 | 97.9 | 98.0 | 102.0 | 107.4 | 110.0 | 144.2 | |
| 160 | 87.8 | 88.3 | 91.3 | 91.6 | 91.0 | 93.1 | 95.2 | 96.9 | 98.8 | 104.4 | 108.5 | 111.2 | 145.6 | |
| 200 | 90.3 | 89.1 | 90.6 | 91.6 | 94.0 | 96.3 | 98.0 | 99.4 | 104.0 | 106.6 | 110.3 | 114.7 | 148.4 | |
| 250 | 90.0 | 93.3 | 93.3 | 95.4 | 95.7 | 96.3 | 99.2 | 102.4 | 107.8 | 113.1 | 117.0 | 118.5 | 152.5 | |
| 315 | 89.8 | 92.9 | 92.6 | 93.7 | 95.3 | 98.9 | 101.0 | 103.4 | 108.7 | 115.4 | 117.3 | 119.8 | 153.5 | |
| 400 | 92.6 | 94.1 | 95.4 | 96.3 | 99.6 | 102.8 | 106.9 | 113.3 | 119.7 | 121.3 | 121.5 | 118.2 | 156.4 | |
| 500 | 91.9 | 94.5 | 95.8 | 96.6 | 99.2 | 101.9 | 105.0 | 111.2 | 119.3 | 122.0 | 121.1 | 117.8 | 156.3 | |
| 630 | 93.8 | 96.1 | 96.4 | 96.9 | 97.7 | 99.9 | 102.7 | 106.2 | 111.9 | 121.9 | 123.3 | 121.7 | 157.8 | |
| 800 | 97.7 | 96.5 | 97.0 | 97.5 | 98.9 | 101.5 | 103.1 | 106.5 | 113.6 | 122.1 | 123.5 | 121.1 | 157.8 | |
| 1000 | 101.5 | 101.0 | 101.6 | 102.5 | 104.7 | 108.1 | 114.1 | 122.8 | 123.7 | 120.7 | 117.1 | 158.1 | | |
| 1250 | 104.2 | 106.3 | 104.5 | 103.9 | 104.5 | 103.9 | 105.4 | 108.6 | 114.4 | 123.1 | 123.2 | 114.7 | 158.0 | |
| 1600 | 110.3 | 107.8 | 104.9 | 103.5 | 104.1 | 107.3 | 109.7 | 114.3 | 122.5 | 118.0 | 115.6 | 111.6 | 157.6 | |
| 2000 | 109.7 | 109.6 | 105.5 | 105.1 | 108.2 | 108.0 | 110.0 | 114.7 | 122.6 | 118.7 | 114.2 | 110.5 | 156.6 | |
| 2500 | 105.7 | 107.1 | 106.3 | 107.1 | 108.4 | 111.3 | 109.4 | 110.6 | 114.9 | 120.9 | 118.5 | 112.7 | 155.8 | |
| 3150 | 105.7 | 107.1 | 106.3 | 107.1 | 108.4 | 111.3 | 109.4 | 110.6 | 114.9 | 120.9 | 118.5 | 112.7 | 155.8 | |
| 4000 | 104.2 | 105.7 | 107.0 | 106.6 | 108.1 | 110.7 | 111.8 | 114.1 | 119.4 | 116.4 | 114.7 | 111.0 | 154.7 | |
| 5000 | 101.9 | 104.2 | 105.2 | 104.6 | 105.8 | 108.0 | 109.0 | 112.0 | 113.5 | 117.1 | 113.9 | 110.2 | 153.4 | |
| 6300 | 101.5 | 103.9 | 104.1 | 104.6 | 105.8 | 108.0 | 109.0 | 112.0 | 113.5 | 117.1 | 113.9 | 110.2 | 153.4 | |
| 8000 | 99.5 | 102.1 | 102.9 | 104.1 | 104.6 | 106.6 | 108.5 | 110.7 | 112.6 | 116.4 | 112.3 | 108.7 | 152.9 | |
| 10000 | 98.5 | 100.6 | 101.7 | 103.4 | 103.5 | 106.7 | 107.1 | 109.4 | 111.2 | 114.8 | 112.1 | 107.8 | 152.3 | |
| 12500 | 96.9 | 99.3 | 99.8 | 100.8 | 103.1 | 104.9 | 105.6 | 107.1 | 110.2 | 112.3 | 109.4 | 105.4 | 151.1 | |
| 16000 | 93.6 | 97.4 | 97.6 | 98.5 | 99.9 | 102.1 | 103.5 | 106.0 | 108.0 | 110.6 | 106.5 | 103.9 | 150.4 | |
| 20000 | 91.1 | 94.6 | 95.0 | 96.4 | 97.7 | 100.0 | 101.3 | 102.9 | 105.6 | 108.1 | 104.9 | 101.7 | 149.7 | |
| 25000 | 87.1 | 92.9 | 92.2 | 93.1 | 95.0 | 98.4 | 99.1 | 99.3 | 101.8 | 104.9 | 100.6 | 98.4 | 148.9 | |
| 31500 | 82.7 | 90.4 | 87.9 | 90.2 | 90.5 | 94.7 | 95.0 | 96.7 | 98.6 | 102.6 | 98.2 | 94.5 | 149.0 | |
| 40000 | 78.0 | 88.9 | 84.6 | 88.4 | 87.4 | 91.8 | 91.2 | 93.4 | 96.6 | 100.0 | 96.2 | 91.1 | 150.4 | |
| 50000 | 74.0 | 90.0 | 88.0 | 89.4 | 86.3 | 91.0 | 84.7 | 87.4 | 89.3 | 94.4 | 99.3 | 88.5 | 153.3 | |
| 63000 | 69.8 | 90.9 | 76.4 | 90.4 | 80.3 | 84.7 | 87.3 | 89.9 | 98.4 | 93.7 | 86.0 | 79.7 | 157.9 | |
| 80000 | 69.5 | 91.8 | 75.7 | 91.3 | 77.8 | 92.5 | 82.8 | 85.0 | 93.9 | 98.4 | 91.8 | 83.7 | 164.7 | |
| GASPL | 116.3 | 117.0 | 116.6 | 117.2 | 117.1 | 118.8 | 119.7 | 122.0 | 126.0 | 132.9 | 132.8 | 130.7 | 128.1 | 170.6 |
| PNL | 128.8 | 129.8 | 129.6 | 130.7 | 130.6 | 132.7 | 133.2 | 135.0 | 138.7 | 145.1 | 143.5 | 140.1 | 136.9 | |
| PNLT | 129.9 | 130.6 | 129.6 | 130.7 | 130.6 | 132.7 | 133.2 | 135.0 | 139.2 | 145.1 | 143.5 | 140.1 | 136.9 | |
| DBA | 190.1 | 212.2 | 196.3 | 211.6 | 198.7 | 212.8 | 203.6 | 205.8 | 214.4 | 218.8 | 212.5 | 204.5 | 199.0 | |
| MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 | | | | | | | | | | | | | | |
| FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 | | | | | | | | | | | | | | |
| REFR CORR YES, TURB CORR YES | | | | | | | | | | | | | | |
| NASA SHOCK CELL/CONT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514 | | | | | | | | | | | | | | |
| VEHICLE | = ADH098 | | | | | | | | | | | | | |
| IAPLHA | = SB59 | | | | | | | | | | | | | |
| WIND DIR | = SB59 | | | | | | | | | | | | | |
| DEG | WIND VEL = | | | | | | | | | | | | | |
| MPH | EXT DIST = | | | | | | | | | | | | | |
| LOCAL | = C41 ANECH CH | | | | | | | | | | | | | |
| CONF10 | = 3 | | | | | | | | | | | | | |
| MODEL | = 3 | | | | | | | | | | | | | |
| PAMB HG | = 29.40 | | | | | | | | | | | | | |
| RELHUM | = 89.0 PCT | | | | | | | | | | | | | |
| FLTVEL | = 0. FPS | | | | | | | | | | | | | |
| FNIN1 | = | | | | | | | | | | | | | |
| LBS | XNL | | | | | | | | | | | | | |
| RPM | XNHR | | | | | | | | | | | | | |
| FNFRAMB | = | | | | | | | | | | | | | |
| TEST PT NO | = 0321 | | | | | | | | | | | | | |
| NC | = 863 | | | | | | | | | | | | | |
| CORR FAN SPEED | = | | | | | | | | | | | | | |
| RPM | = | | | | | | | | | | | | | |
| RUNPT | = 81F-ZER-0321 | | | | | | | | | | | | | |
| TAPE | = X0321F | | | | | | | | | | | | | |

ORIGINAL PAGE IS
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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-0322 X0322C
BACKGROUND 81F-400-0300 X03000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

| | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 89.4 | 88.0 | 84.0 | 85.1 | 86.0 | 86.1 | 89.5 | 93.9 | 97.3 | 96.4 | 105.4 | 100.0 | 137.2 |
| 63 | 90.5 | 90.5 | 90.8 | 88.8 | 91.7 | 92.8 | 92.2 | 95.7 | 97.0 | 97.4 | 101.1 | 99.7 | 138.6 |
| 80 | 92.3 | 96.8 | 92.1 | 93.7 | 93.7 | 95.8 | 95.7 | 97.0 | 97.4 | 98.0 | 105.2 | 103.9 | 139.6 |
| 100 | 92.1 | 97.1 | 92.9 | 93.9 | 95.2 | 96.6 | 98.2 | 98.0 | 99.2 | 99.8 | 105.5 | 106.7 | 141.0 |
| 125 | 89.4 | 90.9 | 92.2 | 93.7 | 95.3 | 97.2 | 97.5 | 96.9 | 96.8 | 100.5 | 105.6 | 110.7 | 143.6 |
| 150 | 88.0 | 85.1 | 89.1 | 89.4 | 89.7 | 91.1 | 92.7 | 94.6 | 96.8 | 101.9 | 106.0 | 110.0 | 144.1 |
| 200 | 88.0 | 87.8 | 88.3 | 88.6 | 90.7 | 93.3 | 94.5 | 97.1 | 101.8 | 103.4 | 107.5 | 112.7 | 146.5 |
| 250 | 87.0 | 90.1 | 89.8 | 91.6 | 92.5 | 94.3 | 96.7 | 100.1 | 105.1 | 110.6 | 114.5 | 116.6 | 150.4 |
| 315 | 87.3 | 89.6 | 89.6 | 90.7 | 91.8 | 95.9 | 98.0 | 100.9 | 105.5 | 112.4 | 115.1 | 117.3 | 151.0 |
| 400 | 89.6 | 89.6 | 91.4 | 92.2 | 92.8 | 97.4 | 100.3 | 105.2 | 111.1 | 117.5 | 119.1 | 119.3 | 154.1 |
| 500 | 88.7 | 90.7 | 92.0 | 92.8 | 94.1 | 96.5 | 99.4 | 103.0 | 108.7 | 116.8 | 120.0 | 118.4 | 153.8 |
| 630 | 91.1 | 93.7 | 93.0 | 93.7 | 95.0 | 97.1 | 100.5 | 105.2 | 109.7 | 119.4 | 122.1 | 118.5 | 155.5 |
| 800 | 93.7 | 94.0 | 94.0 | 94.5 | 95.9 | 98.0 | 100.1 | 104.0 | 110.1 | 119.8 | 122.2 | 117.1 | 155.5 |
| 1000 | 101.0 | 100.5 | 97.8 | 97.8 | 97.4 | 99.5 | 101.9 | 105.1 | 111.1 | 120.4 | 122.7 | 115.9 | 155.9 |
| 1250 | 105.5 | 107.0 | 102.3 | 102.1 | 100.7 | 101.5 | 102.7 | 106.1 | 112.0 | 120.6 | 123.0 | 114.5 | 156.2 |
| 1500 | 105.9 | 107.6 | 102.5 | 102.6 | 102.5 | 102.3 | 104.8 | 107.5 | 112.4 | 120.8 | 123.4 | 114.5 | 156.6 |
| 2000 | 105.9 | 106.8 | 107.7 | 108.1 | 105.7 | 104.6 | 107.4 | 112.8 | 121.4 | 121.3 | 113.1 | 106.1 | 156.1 |
| 2500 | 102.9 | 104.0 | 104.2 | 106.5 | 107.6 | 108.7 | 106.6 | 107.5 | 113.3 | 120.8 | 119.4 | 111.7 | 155.3 |
| 3150 | 102.3 | 102.8 | 103.9 | 105.2 | 105.8 | 109.2 | 110.0 | 112.8 | 117.5 | 116.5 | 109.2 | 101.6 | 153.0 |
| 4000 | 100.5 | 101.0 | 101.8 | 102.8 | 102.9 | 105.8 | 109.1 | 110.3 | 113.1 | 116.5 | 108.1 | 99.7 | 152.4 |
| 5000 | 99.1 | 100.2 | 100.2 | 101.7 | 102.4 | 104.9 | 107.3 | 110.3 | 113.1 | 116.5 | 115.3 | 108.1 | 152.4 |
| 6300 | 98.0 | 100.5 | 100.1 | 102.3 | 102.8 | 104.8 | 106.5 | 110.5 | 112.8 | 116.1 | 114.2 | 99.1 | 151.2 |
| 8000 | 96.6 | 99.0 | 100.4 | 101.3 | 103.7 | 106.0 | 109.5 | 111.9 | 115.3 | 112.4 | 107.0 | 98.6 | 151.6 |
| 10000 | 96.3 | 97.5 | 98.3 | 99.3 | 101.0 | 103.8 | 104.6 | 108.5 | 111.6 | 113.9 | 111.7 | 98.6 | 151.3 |
| 12500 | 94.5 | 95.7 | 97.2 | 98.2 | 99.0 | 102.0 | 103.2 | 106.0 | 109.9 | 112.0 | 109.9 | 96.9 | 150.3 |
| 15000 | 91.6 | 94.4 | 96.0 | 96.0 | 100.1 | 101.2 | 105.0 | 107.5 | 110.4 | 107.5 | 103.7 | 95.7 | 149.7 |
| 20000 | 89.7 | 92.0 | 92.4 | 94.0 | 94.5 | 97.8 | 99.4 | 102.2 | 105.2 | 108.3 | 103.3 | 93.3 | 149.3 |
| 25000 | 85.8 | 89.5 | 89.5 | 90.7 | 91.8 | 97.4 | 97.4 | 98.3 | 101.6 | 104.1 | 97.9 | 89.2 | 147.9 |
| 31500 | 81.9 | 85.7 | 85.5 | 87.3 | 87.8 | 93.4 | 93.8 | 95.5 | 98.2 | 101.0 | 97.7 | 84.8 | 148.0 |
| 40000 | 76.8 | 82.0 | 82.0 | 85.0 | 85.0 | 94.3 | 89.7 | 91.3 | 96.1 | 98.6 | 96.4 | 89.7 | 149.6 |
| 50000 | 72.1 | 85.5 | 76.3 | 84.7 | 80.0 | 95.0 | 86.3 | 87.0 | 93.8 | 97.9 | 93.9 | 85.1 | 152.6 |
| 63000 | 65.7 | 88.5 | 72.6 | 88.2 | 77.9 | 96.6 | 82.6 | 83.8 | 94.6 | 96.0 | 94.0 | 80.8 | 158.0 |
| 80000 | 62.4 | 92.6 | 71.4 | 91.4 | 76.3 | 97.4 | 80.6 | 81.1 | 96.4 | 96.6 | 95.3 | 75.4 | 166.1 |
| DBA | 114.4 | 115.0 | 114.6 | 115.1 | 114.7 | 116.6 | 117.5 | 119.7 | 123.8 | 130.9 | 131.9 | 125.7 | 119.3 |
| PWL | 125.8 | 127.0 | 127.7 | 128.3 | 131.1 | 131.4 | 133.8 | 137.5 | 143.3 | 143.9 | 137.6 | 131.9 | |
| CASPL | 113.8 | 114.7 | 114.2 | 114.7 | 114.6 | 116.8 | 117.8 | 120.2 | 124.3 | 131.0 | 132.2 | 127.9 | 170.0 |

NASA SHOCK CELL/CONT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = AD0106 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH C0NF10 = 3 MODEL = 3 FLTVL = 400. FPS
IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 82.50 MIKE HT = 29.43 RELHUM = 64.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT C0NF10 = ARC NBFR =

FNINI = LBS XNL = RPM XNHR = RPM V8 = 2485.1 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2485.1 FPS AE18 = 0. SQ IN

RUNPT = 81F-400-0322 TAPE = X0322C TEST PT NO = 0322 NC = 863 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-0322 X0322F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.
PWL

FREQ

50

63

80

100

125

160

200

250

315

400

500

630

800

1000

1250

1600

2000

2500

3150

4000

5000

6300

8000

10000

12500

16000

20000

25000

31500

40000

50000

63000

80000

DBA

PWL

PWL

PWL

PWL

PWL

PWL

PWL

PWL

PWL

PWL

PWL

PWL

DATPROC - FLTRAN

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/COUNT, CONV. ANN. PLUG NOZ, SC-3/NAS3-22514

VEHICL = ADG106 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = 3 FLTVEL = 400. FPS
IAPLHA = SB59 LEGA' = NO PWL AREA = FULL SPHERE TAMB F = 82.50 MIKE HT = 29.43 RELHUM = 64.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC NBFR =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2485.1 FPS AE8 = 25.3 SQ IN
FNFRAMB = LBS XNL RPM XNH XNHR = RPM V8 = 2485.1 FPS AE8 = 25.3 SQ IN

RUNPT = -400-0322 TAPE = X0322F TEST PT NO = 032 NC = 863 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-0322 X03221

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|-------|------|------|------|------|------|------|------|------|------|-------|------|------|-------|
| PWL | 73.0 | 75.5 | 75.2 | 75.4 | 76.3 | 79.5 | 81.2 | 84.7 | 87.6 | 94.2 | 95.9 | 93.6 | 88.3 |
| 50 | 73.0 | 75.5 | 75.2 | 75.4 | 76.3 | 79.5 | 81.2 | 84.7 | 87.6 | 94.2 | 95.9 | 93.6 | 88.3 |
| 63 | 75.2 | 75.5 | 76.9 | 77.7 | 78.7 | 80.3 | 82.5 | 86.0 | 89.3 | 96.6 | 98.0 | 94.3 | 88.2 |
| 80 | 74.3 | 76.6 | 77.5 | 78.3 | 79.3 | 81.2 | 84.2 | 89.0 | 97.3 | 98.6 | 94.2 | 88.0 | 172.0 |
| 100 | 76.1 | 78.9 | 78.3 | 79.4 | 80.3 | 80.9 | 83.1 | 90.4 | 98.4 | 99.9 | 94.3 | 89.7 | 173.1 |
| 125 | 77.8 | 78.9 | 78.9 | 80.6 | 81.9 | 82.7 | 84.2 | 91.2 | 98.6 | 100.0 | 93.3 | 88.9 | 173.2 |
| 150 | 85.3 | 85.2 | 83.9 | 83.9 | 83.9 | 83.5 | 85.2 | 91.7 | 98.7 | 100.3 | 92.4 | 88.1 | 173.6 |
| 200 | 90.0 | 92.0 | 87.0 | 86.1 | 85.7 | 84.8 | 85.7 | 86.6 | 92.2 | 99.4 | 98.3 | 91.1 | 87.9 |
| 2250 | 92.1 | 92.1 | 91.7 | 89.4 | 88.9 | 87.1 | 85.4 | 86.6 | 92.8 | 98.9 | 96.3 | 89.5 | 86.1 |
| 2500 | 92.1 | 92.1 | 91.4 | 91.3 | 91.3 | 87.5 | 86.7 | 92.6 | 97.2 | 95.8 | 87.9 | 82.9 | 173.0 |
| 3000 | 85.4 | 87.0 | 87.3 | 88.0 | 86.8 | 88.8 | 90.6 | 89.7 | 92.7 | 94.3 | 91.4 | 84.2 | 171.4 |
| 3500 | 83.1 | 84.8 | 86.0 | 86.9 | 86.4 | 88.0 | 88.7 | 89.8 | 92.1 | 93.6 | 89.9 | 83.3 | 170.9 |
| 4000 | 81.1 | 83.7 | 84.3 | 85.8 | 86.1 | 87.7 | 89.7 | 91.1 | 92.6 | 87.9 | 82.2 | 75.1 | 170.5 |
| 4500 | 79.5 | 83.5 | 83.8 | 84.3 | 84.8 | 86.5 | 87.0 | 88.5 | 90.8 | 91.3 | 87.1 | 81.8 | 170.3 |
| 5000 | 77.3 | 81.5 | 82.8 | 83.7 | 84.5 | 86.4 | 85.5 | 87.4 | 89.2 | 89.4 | 85.2 | 80.6 | 169.8 |
| 5500 | 75.9 | 79.1 | 80.8 | 82.0 | 82.2 | 84.4 | 83.8 | 84.6 | 87.0 | 85.6 | 80.1 | 76.4 | 169.1 |
| 6000 | 72.6 | 78.9 | 80.2 | 79.6 | 82.3 | 81.7 | 83.4 | 84.8 | 85.6 | 80.9 | 74.1 | 68.9 | 168.9 |
| 6500 | 67.5 | 73.3 | 75.3 | 76.9 | 77.0 | 79.5 | 79.4 | 80.0 | 81.2 | 80.9 | 74.1 | 68.9 | 167.5 |
| 7000 | 61.6 | 67.9 | 70.3 | 72.7 | 73.5 | 77.8 | 76.3 | 74.8 | 76.5 | 75.9 | 68.4 | 59.8 | 167.3 |
| 7500 | 53.5 | 62.1 | 64.5 | 66.5 | 66.5 | 69.7 | 68.5 | 67.0 | 69.2 | 61.2 | 47.1 | 25.4 | 168.2 |
| 8000 | 39.0 | 50.0 | 53.5 | 56.8 | 56.7 | 67.0 | 60.4 | 58.7 | 63.1 | 61.5 | 49.5 | 29.4 | 170.3 |
| 8500 | 15.7 | 33.5 | 37.5 | 43.4 | 43.6 | 57.7 | 47.0 | 43.8 | 53.2 | 46.6 | 32.9 | 2.1 | 174.8 |
| 9000 | 9.4 | 9.5 | 22.9 | 23.4 | 41.6 | 25.3 | 21.6 | 35.0 | 23.8 | 5.1 | | | 182.4 |
| 10000 | | | | | | | | | | | | | 183.7 |

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MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9
NASA SHOCK CELL/CNT. CONV. ANN. FLUG NOZ. SC-3/NAS3-22514

VEHICL = A00106 TEST DATE = 09-01-81 LOCAL = C41 ANECH CH CONFIG = 3 MODEL = 3 FLVEL = 400. FPS
IAPLHA = SB59 LEGA = NO EXT DIST = 2400.0 FT PWL AREA = FULL SPHERE TAMB F = 82.50 PAMB HG = 29.43 RELHUM = 64.0 PCT
WIND DIR = DEG WIND VEL = MPH

FNINI = LBS XNL RPM = XNH XNHR = RPM V8 = 2485.1 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNLR RPM = XNHR XNHR = RPM V18 = 2485.1 FPS AE18 = 0. SQ IN
RUNPT = 81F-400-0322 TAPE = X03221 TEST PT NO = 0322 NC = 863 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

ANGLES MEASURED FROM INLET, DEGREES

IDENTIFICATION - MODEL 81F-ZER-0349 X0349C
BACKGROUND 81F-400-0300

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 81.9 80.7 78.5 78.5 79.1 80.7 80.9 84.5 86.7 84.1 92.9 92.6 93.0 128.3

63 84.5 84.0 83.3 84.8 86.9 86.3 86.7 90.8 91.1 91.1 99.0 97.7 98.6 134.0

80 86.8 87.1 88.0 87.3 87.1 91.1 91.2 90.9 92.5 93.0 94.2 96.8 99.8 101.2 136.1

100 87.6 87.6 88.4 89.4 90.7 91.6 92.5 93.4 93.0 94.8 98.2 105.1 105.8 106.0 140.5

125 84.4 87.1 88.9 89.1 89.7 91.1 94.5 97.1 100.3 106.1 110.0 112.5 111.9 146.1

160 84.0 83.1 86.6 87.9 87.0 89.1 90.7 92.1 93.6 98.4 103.5 105.5 107.4 140.0

200 84.8 84.1 86.9 88.2 89.3 91.3 91.5 93.9 98.5 100.6 108.7 109.9 142.4

250 84.5 88.6 88.6 89.6 89.7 91.1 94.5 97.1 100.3 106.1 110.0 112.5 111.9 146.1

315 84.8 88.4 88.1 88.9 90.8 94.4 96.0 97.9 102.2 109.2 111.6 113.8 113.2 147.7

400 86.6 89.9 89.9 90.9 91.3 94.6 96.5 100.7 107.1 114.2 115.8 116.0 113.7 151.0

500 86.7 90.5 90.3 92.0 92.6 95.2 97.9 101.3 106.7 114.1 116.7 115.9 113.3 151.2

630 88.1 91.3 91.6 92.4 93.5 96.1 99.0 102.2 106.7 115.4 118.8 117.5 115.9 152.9

800 92.2 91.7 92.8 93.5 94.6 97.3 98.4 101.8 107.6 116.1 119.2 116.6 114.3 152.6

1000 97.2 97.5 96.5 96.1 96.2 98.0 99.9 103.1 108.6 115.8 117.7 116.2 114.3 152.4

1250 95.0 99.8 99.6 99.4 99.8 101.4 103.6 108.4 115.4 117.7 115.9 113.2 113.2 152.2

1600 98.5 101.1 102.1 100.9 101.0 102.3 105.8 105.7 109.9 115.5 120.6 117.7 114.0 154.1

2000 95.4 97.3 96.0 96.7 96.4 98.8 100.7 103.6 108.3 113.9 115.3 112.9 109.4 150.2

2500 95.9 97.2 96.7 97.5 97.1 99.5 101.5 104.3 108.2 113.1 114.2 111.2 108.0 149.4

3150 99.5 100.3 98.8 100.1 99.4 101.3 101.4 104.1 108.2 111.6 113.5 110.4 106.8 148.9

4000 96.0 97.0 96.7 97.3 97.3 99.3 101.4 104.5 106.6 109.0 109.7 108.0 105.7 146.6

5000 95.4 96.4 95.0 95.5 95.2 97.2 99.4 100.5 103.8 106.6 109.0 109.7 108.0 146.6

6300 94.7 97.7 95.8 96.1 96.8 99.5 100.5 103.5 106.0 107.3 108.9 107.2 105.5 146.1

8000 92.8 95.9 95.9 95.6 96.3 98.4 100.0 102.2 104.6 106.2 106.8 106.2 104.3 145.2

10000 91.5 93.6 94.7 95.7 96.2 98.5 98.6 100.9 103.5 104.8 105.6 103.7 104.6

12500 90.1 92.3 93.3 93.6 94.9 96.6 97.8 99.3 101.7 102.3 104.2 103.4 100.5 143.7

16000 87.4 90.6 90.9 91.3 92.4 94.6 95.7 98.0 99.3 99.8 101.3 101.2 97.9 142.7

20000 84.3 87.6 88.0 89.4 89.9 92.0 93.1 94.9 96.8 97.6 98.9 94.6 142.0

25000 79.8 84.4 85.1 87.3 89.9 90.6 90.5 94.0 96.3 96.4 96.4 90.7 141.2

31500 74.9 80.1 80.4 81.7 82.5 85.9 86.5 87.2 89.8 89.8 93.4 92.3 87.1 140.7

40000 70.0 75.4 76.3 77.6 79.2 81.3 82.4 83.2 87.3 85.2 91.2 89.1 83.2 141.4

50000 65.5 72.7 71.2 74.3 73.6 77.9 77.6 77.8 83.9 82.8 87.9 86.5 79.1 142.5

63000 61.3 72.4 67.4 74.9 70.0 75.7 73.5 73.3 83.9 83.9 79.9 86.9 84.0 146.1

80000 59.0 74.3 68.2 76.8 76.8 76.7 68.8 68.8 84.9 84.9 75.9 86.8 80.9 152.7

QASPL 107.3 109.3 108.9 109.3 109.5 111.5 113.2 115.5 119.6 125.4 127.9 126.6 124.5 163.4

PWL 121.2 122.7 121.8 122.7 122.6 124.6 125.7 128.4 132.2 136.6 139.3 137.4 134.8

PNLT 122.4 123.7 123.4 123.7 122.6 125.6 127.3 128.4 132.2 136.6 140.6 138.5 134.8

DBA 107.5 109.3 108.9 109.1 109.2 111.0 112.9 115.2 119.4 124.9 127.5 125.6 123.0

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH099 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CNF16 = 3 MODEL = 3 FLTVL = 0. FPS
IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 76.00 PAMB HG = 29.40 RELHUM = 89.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNF16 = ARC MIKE HT = 29.40 NBFR =

FNINI = LBS XNL RPM XNH RPM = = = = V8 = 2063.9 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNLR RPM XNHR RPM = = = = V18 = 2063.9 FPS AE18 = 0. SQ IN

RUNPT = 81 7ER-0349 TAPE = X0349C TEST PT NO = 0349 NC = 863 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-0349 X0349F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.
PWL

50 81.9 80.7 78.5 78.5 79.1 80.7 80.9 84.5 86.7 84.1 92.9 92.6 93.0 128.3
63 84.5 84.0 83.3 84.8 86.9 88.3 86.7 90.8 91.1 91.1 99.0 97.7 98.6 134.0
80 86.8 91.6 87.3 87.1 88.0 91.2 90.9 92.5 92.5 90.9 93.5 96.2 97.1 133.6
100 87.6 92.6 88.4 90.4 90.7 91.6 92.5 93.4 93.0 94.2 96.8 99.8 101.2 136.1
125 84.4 87.1 88.9 91.2 90.3 93.7 93.5 94.9 94.8 98.2 105.1 105.8 106.0 140.5
160 84.0 83.1 86.6 87.9 87.0 89.1 90.7 92.1 93.6 98.4 103.5 105.5 107.4 140.0
200 84.8 84.1 86.1 86.9 88.2 91.3 91.5 93.9 98.5 100.6 104.5 108.7 109.9 142.4
250 84.5 88.6 88.6 89.6 89.7 91.1 94.5 97.1 100.3 106.1 110.0 112.5 111.9 146.1
315 84.8 88.4 88.1 88.9 90.8 94.4 96.0 97.9 102.2 109.2 111.6 113.8 113.2 147.7
400 86.6 89.4 89.9 90.9 91.3 94.6 96.5 100.7 107.1 114.2 115.8 116.0 113.7 151.0
500 86.7 90.5 90.3 92.0 92.6 95.2 97.9 101.3 106.7 114.1 116.7 115.9 113.3 151.2
630 88.1 91.3 91.6 92.4 93.5 96.1 99.0 102.2 106.7 115.4 118.8 117.5 115.9 152.9
800 92.2 91.7 92.8 93.5 94.6 97.3 98.4 101.8 107.6 116.1 118.2 116.6 114.3 152.6
1000 97.2 97.5 95.5 96.1 96.2 98.0 99.9 103.1 108.6 115.8 117.7 116.2 114.3 152.4
1250 95.0 99.8 98.8 99.6 99.4 99.8 101.4 103.6 108.4 115.4 117.7 115.9 113.2 152.2
1600 98.5 101.1 102.1 100.9 101.0 102.3 105.8 105.7 109.9 112.5 112.9 109.4 154.1
2000 95.4 97.3 96.0 96.4 96.7 97.1 99.5 101.5 104.3 108.2 113.1 114.2 111.2 108.0 149.4
2500 95.9 97.2 96.7 97.5 97.1 99.5 101.5 104.3 108.2 113.1 114.2 111.2 108.0 149.4
3150 99.5 100.3 98.8 100.1 99.4 101.3 101.4 104.1 108.2 111.6 113.5 110.4 106.8 148.9
4000 96.0 97.0 96.4 96.0 96.5 97.2 99.1 100.5 103.8 106.6 109.7 108.0 105.7 146.6
5000 95.4 96.4 96.0 96.5 97.2 99.1 100.5 103.8 106.6 109.7 108.0 105.7 146.6
6300 94.7 97.7 95.8 96.1 96.8 99.5 100.5 103.5 106.0 107.3 108.9 107.2 105.5 146.1
8000 92.8 95.9 95.9 96.3 96.3 98.4 100.0 102.2 104.6 106.2 106.8 104.3 145.2
10000 91.5 93.6 93.7 96.2 96.2 98.5 100.9 103.5 104.8 105.6 104.8 103.7 144.6
12500 90.1 92.3 93.3 93.6 94.9 96.6 97.8 99.3 101.7 102.3 104.2 103.4 100.5 143.7
16000 87.4 90.6 90.9 91.3 92.4 94.6 95.7 98.0 99.3 99.8 101.3 101.2 97.9 142.7
20000 84.3 87.6 88.0 89.4 89.9 93.1 94.9 96.8 97.6 99.2 98.9 96.4 142.0
25000 79.8 84.4 84.9 85.1 87.3 89.9 90.6 90.5 94.0 93.4 96.3 96.4 90.7 141.2
31500 74.9 80.1 80.4 81.7 82.5 85.9 86.5 87.2 89.8 89.8 93.4 92.3 87.1 140.7
40000 70.0 75.4 76.3 77.6 79.2 81.3 82.4 83.2 87.3 85.2 89.1 83.2 141.4
50000 61.3 72.7 71.2 74.3 73.6 77.9 77.6 77.8 84.4 82.8 87.9 86.5 79.1 142.5
63000 65.5 72.7 71.2 74.3 73.6 77.9 77.6 77.8 84.4 82.8 87.9 86.5 79.1 142.5
80000 59.0 74.3 68.2 76.8 66.8 66.8 76.7 68.8 68.8 84.9 80.9 80.9 75.6 152.7

GASPL 107.3 109.3 108.9 109.3 109.5 111.5 113.2 115.5 119.6 125.4 127.9 126.6 124.5 163.4
PWL 121.2 122.7 121.8 122.7 122.6 124.6 125.7 128.4 132.2 136.6 139.3 137.4 134.8
PNLT 122.4 123.7 123.4 123.7 122.6 125.6 127.3 128.4 132.2 136.6 140.6 138.5 134.8
DBA 179.9 194.6 188.6 197.1 187.9 197.1 190.3 190.2 205.3 197.1 207.3 201.9 196.3

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES
NASA SHOCK CELL/CONT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH099 TEST DATE = 09-01-81
IAPLHA = SB59
WIND DIR = DEG WIND VEL = MPH
LOCAL = C41 ANECH CH CONFIO = 3
TAMB F = FULL SPHERE
EXT AREA = 40.0 FT
EXT DIST = 40.0 FT
EXT CONFIO = ARC
MIKE HT = 29.40
PAMB HG = 29.40
RELHUM = 89.0 PCT
FLTVEL = 3
0. FPS

FNINI = LBS XNL = RPM
XNHR = RPM
V8 = 2063.9 FPS
AE8 = 25.3 SQ IN
AE18 = 0. SQ IN
CORR FAN SPEED = RPM

RUNPT = 81F-ZER-0349 TAPE = X0349F
TEST PT NO = 0349 NC = 863
CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-0349 X03491

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 64.6 68.9 70.5 72.2 73.0 76.5 78.2 82.0 87.7 93.7 93.8 91.8 86.1 168.4

63 64.7 70.0 70.8 73.3 74.3 77.1 79.6 82.6 87.3 93.6 94.7 91.6 85.7 168.6

80 66.0 70.8 72.2 73.7 75.2 77.9 80.7 83.4 87.2 94.9 96.7 93.2 88.2 170.4

100 70.0 71.1 73.2 74.8 76.3 79.0 80.0 83.0 86.1 95.5 96.0 92.2 86.4 170.0

125 74.9 76.8 78.9 77.2 77.7 79.7 81.5 84.2 89.0 95.1 95.4 91.6 86.2 169.8

160 72.5 78.9 79.1 80.6 80.9 81.4 82.9 84.6 88.7 94.5 95.3 91.1 84.7 169.7

200 75.8 80.0 82.2 81.7 82.2 83.7 87.1 86.6 89.9 94.4 97.9 92.6 85.0 171.5

250 72.4 76.0 75.8 77.0 77.8 80.0 81.8 84.2 88.4 92.6 92.2 87.3 79.8 167.6

315 72.4 75.5 76.3 77.9 77.9 80.4 82.4 84.6 87.8 91.4 90.7 85.1 77.6 166.8

400 75.5 78.2 78.0 79.9 81.9 81.9 84.1 87.4 89.5 89.5 83.7 75.4 166.3

500 71.5 74.5 75.6 77.0 77.6 79.7 81.7 84.2 86.7 87.2 86.7 81.0 74.0 164.8

630 70.4 73.6 74.5 75.9 77.1 79.2 80.5 83.3 85.1 86.1 84.8 79.9 72.2 164.1

800 69.3 74.4 74.1 75.3 76.5 79.4 80.2 82.6 84.2 84.1 83.4 78.4 71.0 163.5

1000 66.9 72.4 73.9 74.6 75.9 78.1 79.6 81.2 82.6 82.7 81.0 76.8 68.5 162.6

1250 65.1 69.8 72.4 74.5 75.6 78.1 78.0 79.7 81.2 80.9 79.2 74.6 66.6 162.1

1600 62.9 67.8 70.6 72.1 74.0 76.0 77.0 77.8 79.0 77.9 77.0 71.8 61.0 161.1

2000 59.2 65.6 67.8 69.5 71.4 73.8 74.7 76.3 76.2 74.7 73.0 67.9 55.4 160.1

2500 54.3 61.3 64.1 66.9 68.4 70.7 71.5 72.4 72.9 71.3 69.2 62.8 47.2 159.4

3150 46.5 55.7 59.1 61.2 64.3 67.3 67.7 66.6 68.2 64.7 63.0 55.3 34.9 158.7

4000 35.3 46.7 50.8 54.5 56.6 60.4 60.6 59.9 60.2 56.4 53.8 42.3 16.8 158.1

5000 20.7 34.4 40.5 45.0 48.2 50.9 51.5 50.5 51.8 44.2 41.8 25.4 158.8

6300 17.5 23.3 30.8 32.6 37.6 37.6 36.6 34.3 36.5 27.6 20.7 159.9

8000 12.2 10.9 17.7 14.3 10.6 14.6 163.6

10000 170.1

12500 159.9

16000 158.8

20000 158.7

25000 158.7

31500 158.7

40000 158.7

50000 158.7

63000 158.7

80000 158.7

QASPL 83.5 87.2 88.1 89.2 89.9 91.9 93.6 95.5 99.1 104.1 105.1 101.1 95.0 180.5

PNL 88.3 92.3 93.6 95.0 95.8 98.0 99.6 100.8 103.7 106.6 107.7 102.7 95.0

PWLT 88.9 92.8 94.4 95.5 95.8 98.5 98.6 100.4 100.8 103.7 106.6 108.7 103.2 95.0

DBA 77.5 81.5 82.6 84.0 85.0 87.3 88.4 90.3 92.4 94.1 94.1 89.0 81.6

MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/CONT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH099 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = 3 PAMB HG = 29.40 FLVEL = 0. FPS
IAPLHA = SB59 IEQA = NO EXT DIST = 2400.0 FT PWL AREA = FULL SPHERE TAMB F = 76.00 MIKE HT = 29.40 RELHUM = 89.0 PCT
WIND DIR = DEG WIND VEL = MPH

FNINI = LBS XNLR RPM = XNH RPM V8 = 2063.9 FPS AE8 = 25.3 SQ IN
FNAMB = LBS XNLR RPM = XNHR RPM V18 = 2063.9 FPS AE18 = 0. SQ IN

RUNPT = ER-0349 TAPE = X03491 TEST PT NO = 0349 NC = 863 CORR FAN SPEED = RPM

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OF POOR QUALITY

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DATPROC - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-1301 X1301C

BACKGROUND 81F-400-0300

ANGLES MEASURED FROM INLET, DEGREES

FREO 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 83.4 83.5 82.7 81.8 82.6 83.7 82.1 83.0 85.9 84.3 87.7 92.1 93.0 127.7

63 68.7 68.8 69.3 68.3 69.8 80.2 90.1 90.6 90.9 89.5 97.7 98.6 133.6

80 66.5 66.8 65.3 66.4 67.2 89.8 90.7 89.9 90.3 90.7 91.3 94.0 96.1 132.3

100 66.8 66.4 66.4 66.4 66.4 89.0 89.9 90.7 92.4 91.3 92.4 95.1 98.5 99.9 134.5

125 64.9 66.6 67.9 68.6 89.2 89.3 91.7 91.3 90.9 91.5 94.0 99.4 102.8 104.7 137.4

160 64.8 66.6 66.1 65.4 66.5 88.1 89.2 89.6 90.6 94.4 99.8 104.2 107.4 138.5

200 64.3 66.3 66.3 66.8 67.4 88.0 90.1 91.0 93.4 96.3 96.9 101.5 107.2 109.9 141.1

250 64.0 66.3 66.3 66.6 67.7 89.7 92.3 94.7 96.1 97.3 101.9 108.0 112.2 112.9 145.3

315 65.8 66.6 66.6 66.6 66.6 91.4 92.3 94.4 96.0 97.7 100.7 105.7 110.1 114.0 147.4

400 66.6 66.6 66.6 66.6 66.6 90.4 90.9 90.3 92.9 95.0 97.7 101.6 107.9 112.1 148.9

500 67.7 69.7 69.8 69.8 69.8 90.6 91.6 93.7 95.6 97.6 101.2 107.6 113.0 117.6 150.0

630 68.6 69.1 69.4 69.4 69.4 92.2 93.9 95.5 97.7 100.4 107.9 114.6 117.5 116.9 150.5

800 69.7 69.8 69.8 69.8 69.8 93.4 95.3 95.9 98.3 102.4 107.8 114.0 116.9 115.8 149.9

1000 97.5 98.8 98.5 97.3 96.2 97.0 97.7 99.6 103.1 107.8 113.0 116.4 116.8 149.9

1250 101.0 101.3 98.5 98.8 99.4 99.8 99.4 100.3 103.4 107.9 112.0 111.4 114.7 114.5 149.4

1600 109.5 106.3 104.3 98.2 97.8 98.7 100.9 103.3 108.2 109.3 112.9 112.4 114.7 114.5 149.6

2000 110.4 109.3 108.2 106.9 103.0 100.1 98.7 100.9 103.3 108.2 109.3 112.9 112.4 114.7 149.6

2500 106.9 107.7 107.2 108.0 107.6 106.2 102.0 101.8 103.5 107.6 107.9 111.7 110.0 149.3

3150 106.2 105.1 106.6 106.3 106.4 106.4 106.4 106.4 106.4 106.4 106.4 106.4 106.4 148.0

4000 105.0 105.5 105.5 105.8 104.3 105.6 106.7 105.8 104.6 105.4 105.7 107.9 108.3 148.7

5000 103.4 104.7 104.0 104.0 104.4 104.6 104.0 105.8 106.1 105.3 104.5 106.5 105.4 147.3

6300 102.2 104.7 103.8 104.1 104.0 105.0 103.7 105.0 107.0 105.1 103.6 104.8 104.8 147.6

8000 100.5 102.1 102.8 103.9 103.6 102.6 102.9 104.5 104.1 102.1 103.3 102.2 103.8 146.5

10000 99.7 100.6 101.7 102.7 102.7 104.0 102.6 102.9 104.5 104.1 102.1 103.3 102.2 146.5

12500 97.6 99.0 100.3 100.6 100.9 102.4 101.3 101.1 102.2 101.8 100.7 101.4 99.2 145.5

16000 95.1 97.4 97.6 98.5 98.4 100.1 99.8 99.1 97.8 99.9 97.4 144.7

20000 92.6 94.6 95.9 96.2 98.5 97.6 97.6 97.6 97.6 97.6 97.6 144.3

25000 88.8 92.7 92.2 92.9 93.8 96.4 95.6 93.3 95.0 92.7 92.6 143.8

31500 83.9 89.4 87.7 90.5 89.5 89.2 92.9 91.5 90.7 89.1 89.8 143.3

40000 79.3 87.7 84.6 87.9 86.2 90.0 88.2 87.2 89.1 84.5 87.2 144.3

50000 75.0 87.2 79.7 87.8 81.6 88.1 84.1 82.0 87.2 80.8 84.9 146.4

63000 71.3 86.4 76.9 89.7 79.0 88.2 80.7 78.1 88.2 77.4 84.4 151.8

80000 69.0 88.6 76.7 89.5 76.3 87.7 77.3 73.8 89.4 73.4 84.8 158.5

QASPL 116.2 116.1 115.3 115.4 114.8 115.4 114.6 114.9 116.5 119.2 122.9 126.3 126.1 163.7

PWL 130.0 128.8 129.3 128.6 129.4 128.9 128.2 128.2 129.1 131.3 133.2 136.4 135.8

DBA 117.0 116.6 115.7 115.7 114.8 115.7 114.2 114.3 115.8 118.5 121.8 125.1 124.7

NASA SHOCK CELL/CONT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH100 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = 3

IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 76.00 MIKE HT = 29.40

WIND DIR = SB59 DEG WIND/VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC NBFR = 89.0 PCT

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 1666.2 FPS AE8 = 25.3 SQ IN

FNFRMB = LBS XNL RPM XNH XNHR = RPM V8 = 1666.2 FPS AE8 = 25.3 SQ IN CORR FAN SPEED = RPM

RUNPT = 81F-ZER-1301 TAPE = X1301C TEST PT NO = 1301 NC = 863

ORIGINAL PAGE IN
OF POOR QUALITY

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-1301 X1301F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 83.4 83.5 82.7 81.8 82.6 83.7 82.1 83.0 85.9 84.3 87.7 92.1 93.0 127.7

63 86.7 89.8 88.3 89.7 90.8 89.8 90.7 89.9 90.6 90.9 89.5 97.7 98.6 133.6

80 86.5 90.8 85.3 86.4 87.2 89.8 90.7 89.9 90.3 90.7 91.3 94.0 96.1 132.3

100 86.8 90.6 86.4 86.4 86.0 89.9 90.7 92.4 91.3 92.4 95.1 98.5 99.9 134.5

125 84.9 86.6 87.9 89.2 89.3 91.7 91.3 90.9 91.5 94.0 99.4 102.8 104.7 137.4

160 84.8 82.6 85.4 86.5 88.1 89.2 89.6 90.6 94.4 99.8 104.2 107.4 138.5

200 84.3 86.3 86.8 87.4 88.0 90.1 91.0 93.4 96.3 96.9 101.5 107.2 109.9 141.1

250 84.0 90.6 88.3 88.6 89.7 92.3 94.7 96.1 97.3 101.9 108.0 112.2 112.9 145.3

315 85.8 90.1 88.6 91.4 92.3 94.4 96.0 97.7 100.7 105.7 110.1 114.0 114.9 147.4

400 86.6 89.4 90.4 89.9 90.3 92.9 95.0 97.7 101.6 107.9 112.1 115.8 115.7 148.9

500 87.7 90.7 89.8 90.8 91.6 93.7 95.6 97.8 101.2 107.6 113.0 117.6 116.3 150.0

630 88.6 91.1 91.4 92.2 93.9 95.5 97.7 100.4 107.9 114.6 117.5 116.9 150.5

800 91.7 92.0 92.8 93.4 95.3 96.3 98.3 102.4 107.8 114.0 116.9 115.8 149.9

1000 97.5 98.8 98.5 97.3 96.2 97.0 97.7 99.6 103.1 107.8 113.0 116.4 149.9

1250 101.0 101.3 98.5 98.8 99.4 99.8 99.4 100.3 103.4 107.9 112.0 115.7 115.9 149.4

1600 109.5 106.3 104.3 101.1 98.2 97.8 98.8 101.2 103.3 107.0 111.4 114.5 114.9 149.4

2000 110.4 109.3 108.2 106.9 103.0 100.1 98.7 100.9 103.3 108.2 109.3 112.9 112.4 149.6

2500 106.9 107.7 107.2 108.0 107.6 106.2 102.0 101.8 103.5 107.6 107.9 111.7 110.0 149.3

3150 106.2 106.6 105.1 106.3 106.4 107.8 106.4 102.6 104.4 106.1 107.5 109.4 108.3 148.7

4000 105.0 105.5 104.5 104.6 104.6 105.7 105.6 104.6 105.4 106.7 105.9 104.5 104.6 148.0

5000 103.4 104.7 104.0 104.4 104.6 104.0 105.8 106.1 105.3 104.5 106.5 105.4 104.7 147.3

6300 102.2 104.7 103.8 104.1 104.0 105.0 103.7 105.0 104.2 103.6 105.1 103.6 105.9 147.4

8000 100.5 102.1 102.4 103.1 102.8 103.9 103.9 102.9 102.7 102.1 103.8 102.8 102.8 146.6

10000 99.7 100.6 101.7 102.7 102.7 104.0 102.6 102.9 104.5 104.1 102.1 103.3 102.2 146.5

12500 97.6 99.0 100.3 100.6 100.9 102.4 101.3 101.1 102.2 101.8 100.7 101.4 99.2 145.5

16000 95.1 97.4 97.6 98.5 98.4 100.1 99.5 100.5 99.8 99.1 97.8 99.9 97.4 144.7

20000 92.6 94.6 94.7 95.9 96.2 98.5 97.6 97.6 97.6 96.3 95.4 95.1 94.3 144.3

25000 88.8 92.7 92.9 93.8 96.4 95.6 93.3 95.0 92.7 92.6 94.4 91.5 94.3 143.8

31500 83.9 89.4 87.7 90.5 89.5 92.9 91.5 90.7 91.3 89.1 89.2 89.8 87.6 143.3

40000 79.3 87.7 84.6 87.9 86.2 90.0 88.2 87.2 86.1 84.5 87.2 86.4 83.9 144.3

50000 75.0 79.7 79.7 87.8 81.6 88.1 84.1 82.0 80.8 80.8 84.9 83.5 80.6 146.4

63000 71.3 86.4 76.9 89.7 79.0 88.2 80.7 78.1 86.2 77.4 84.4 80.2 79.7 151.8

80000 69.0 88.6 68.6 76.7 69.5 76.3 67.7 77.3 73.8 69.4 73.4 84.8 77.9 158.5

GASPL 116.2 116.1 115.3 115.4 114.8 115.4 114.6 114.9 116.5 119.2 122.9 126.3 126.1 163.7

PNL 128.7 128.8 128.2 128.6 128.1 128.9 128.2 128.2 129.1 131.3 133.2 136.4 135.8

PNLT 130.0 128.8 129.3 128.6 129.4 128.9 128.2 128.2 129.1 131.3 133.2 136.4 135.8

DBA 189.9 209.0 197.2 210.0 197.2 208.2 198.4 195.1 209.8 194.6 205.3 198.8 199.9

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH100 TEST DATE = 09-01-81 LOCAL = C41 ANECH CH CONFIG = 3 MODEL = 3 FLTVEL = 0. FPS

IAPLHA = SB59 WIND DIR = DEG WIND VEL = MPH PML AREA = FULL SPHERE TAMB F = 76.00 PAMB HG = 29.40 RELHUM = 89.0 PCT

FNINI = LBS XNL RPM XNHR RPM = V8 = 1666.2 FPS AE8 = 25.3 SQ IN AE18 = 0. SQ IN

RUNPT = 8 ER-1301 TAPE = X1301F TEST PT NO = 1301 NC = 863 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-1301 X13011

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | PWL |
|---|--|------------------------|----------|--------------|-----------|-------------|----------|------------|------------------|--------|------------|-------|------------|
| 50 | 64.6 | 68.9 | 71.0 | 71.2 | 72.0 | 74.7 | 76.7 | 79.0 | 82.2 | 87.5 | 90.1 | 91.6 | 88.1 166.3 |
| 63 | 65.7 | 70.2 | 70.3 | 72.1 | 73.3 | 75.6 | 77.3 | 79.1 | 81.8 | 87.1 | 90.9 | 93.4 | 88.7 167.4 |
| 80 | 66.5 | 70.6 | 71.7 | 72.7 | 73.9 | 75.7 | 77.2 | 78.9 | 81.0 | 87.4 | 92.5 | 93.2 | 89.2 167.9 |
| 100 | 69.5 | 72.5 | 74.0 | 75.0 | 77.0 | 77.5 | 79.5 | 82.8 | 87.2 | 91.8 | 92.5 | 87.9 | 167.3 |
| 125 | 75.2 | 78.1 | 78.9 | 78.4 | 77.7 | 78.7 | 79.2 | 80.7 | 83.5 | 87.1 | 90.7 | 91.8 | 88.7 167.3 |
| 150 | 78.5 | 80.4 | 78.8 | 79.8 | 80.9 | 81.4 | 80.9 | 81.3 | 83.7 | 87.0 | 89.5 | 90.9 | 87.5 166.9 |
| 200 | 66.8 | 85.2 | 84.4 | 82.0 | 79.5 | 79.2 | 81.1 | 82.1 | 83.4 | 85.9 | 88.7 | 89.6 | 85.5 166.8 |
| 250 | 67.4 | 88.0 | 88.1 | 87.5 | 84.0 | 81.3 | 79.8 | 81.5 | 83.1 | 86.8 | 86.2 | 87.3 | 82.8 167.0 |
| 315 | 83.4 | 86.0 | 86.8 | 88.4 | 88.4 | 87.2 | 82.9 | 82.1 | 83.0 | 85.9 | 84.5 | 85.6 | 79.6 166.7 |
| 400 | 82.3 | 84.5 | 84.3 | 86.4 | 86.9 | 88.4 | 86.9 | 82.6 | 83.6 | 84.0 | 83.5 | 82.7 | 76.9 166.1 |
| 500 | 80.5 | 83.0 | 84.4 | 85.5 | 84.6 | 85.9 | 86.9 | 85.5 | 83.4 | 83.0 | 81.2 | 80.5 | 74.2 165.5 |
| 630 | 78.4 | 81.8 | 82.5 | 83.4 | 84.4 | 84.7 | 84.0 | 85.3 | 84.6 | 82.4 | 79.6 | 78.4 | 72.0 164.8 |
| 800 | 76.8 | 81.4 | 82.1 | 83.3 | 83.7 | 84.9 | 83.4 | 84.1 | 85.2 | 81.8 | 78.2 | 77.1 | 70.0 164.8 |
| 1000 | 73.4 | 78.6 | 80.4 | 82.1 | 82.4 | 83.6 | 83.1 | 82.9 | 83.6 | 81.2 | 76.2 | 74.8 | 68.0 164.0 |
| 1250 | 73.4 | 76.8 | 79.4 | 81.5 | 82.1 | 83.6 | 82.0 | 81.7 | 82.2 | 80.2 | 75.7 | 73.1 | 65.1 163.9 |
| 1600 | 70.4 | 74.5 | 77.6 | 79.1 | 80.0 | 81.7 | 80.5 | 79.6 | 79.5 | 77.4 | 73.5 | 69.8 | 59.7 162.9 |
| 2000 | 66.9 | 72.3 | 74.6 | 76.8 | 77.4 | 79.3 | 78.5 | 78.8 | 76.7 | 74.0 | 69.5 | 66.7 | 54.9 162.2 |
| 2500 | 62.6 | 68.3 | 70.8 | 73.4 | 74.6 | 77.2 | 76.0 | 75.2 | 73.6 | 70.0 | 65.4 | 63.3 | 47.7 161.7 |
| 3150 | 55.5 | 63.9 | 66.4 | 68.9 | 70.8 | 73.8 | 72.7 | 69.3 | 69.2 | 63.9 | 59.2 | 53.3 | 35.6 161.2 |
| 4000 | 44.3 | 55.9 | 58.1 | 63.2 | 63.6 | 67.4 | 65.6 | 63.4 | 61.7 | 55.6 | 49.6 | 39.8 | 17.3 160.7 |
| 5000 | 29.9 | 46.6 | 48.7 | 55.2 | 55.2 | 59.7 | 57.2 | 54.5 | 53.2 | 43.4 | 37.8 | 22.7 | 163.8 |
| 6300 | 7.9 | 32.0 | 31.8 | 44.3 | 40.6 | 47.9 | 43.1 | 38.6 | 39.3 | 25.6 | 17.7 | 169.2 | 176.0 |
| 8000 | 8.3 | 7.7 | 27.0 | 19.9 | 30.2 | 21.6 | 15.4 | 18.9 | 159.2 | 163.8 | 169.2 | 176.0 | |
| 10000 | | | | | | | | | | | | | |
| 12500 | | | | | | | | | | | | | |
| 16000 | | | | | | | | | | | | | |
| 20000 | | | | | | | | | | | | | |
| 25000 | | | | | | | | | | | | | |
| 31500 | | | | | | | | | | | | | |
| 40000 | | | | | | | | | | | | | |
| 50000 | | | | | | | | | | | | | |
| 63000 | | | | | | | | | | | | | |
| 80000 | | | | | | | | | | | | | |
| GASPL | 92.6 | 94.0 | 94.4 | 95.2 | 95.0 | 95.5 | 94.6 | 94.4 | 95.3 | 97.4 | 99.9 | 101.0 | 96.9 180.9 |
| PWL | 97.1 | 99.4 | 100.2 | 101.6 | 101.7 | 103.0 | 101.9 | 101.5 | 101.4 | 101.3 | 101.2 | 101.3 | 96.1 |
| PMLT | 97.1 | 99.9 | 100.8 | 101.6 | 102.4 | 103.5 | 101.9 | 101.5 | 101.4 | 101.3 | 101.2 | 101.3 | 96.1 |
| DBA | 86.4 | 89.1 | 90.1 | 91.5 | 91.7 | 92.8 | 91.8 | 91.4 | 91.5 | 90.1 | 88.2 | 88.1 | 82.9 |
| MODEL AREA = 163.1 SQ CM (25.3 SQ IN) | SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9 | | | | | | | | | | | | |
| NASA SHOCK CELL/COUNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514 | | | | | | | | | | | | | |
| VEHICL = ADH100 | TEST DATE = 09-01-81 | LOCAT = | | | | | | | | | | | |
| IAPLHA = SB59 | LEGA = | PWL AREA = FULL SPHERE | TAMB F = | 76.00 | PAMB HG = | 29.40 | RELHUM = | 89.0 PCT | FLTVEL = | 0. FPS | | | |
| WIND DIR = | DEG | WIND VEL = | MPH | EXT DIST = | 2400.0 FT | EXT CNFIG = | SL | MIKE HT = | NBFR = | | | | |
| FNINI = | LBS | XNL | RPM | XNH | RPM | V8 | = | 1666.2 FPS | AE8 | = | 25.3 SQ IN | | |
| FNRAMB = | LBS | XNLR | RPM | XNHR | RPM | V18 | = | 1666.2 FPS | AE18 | = | 0. SQ IN | | |
| RUNPT = 81F-ZER-1301 | TAPE | = | X13011 | TEST PT NO = | 1301 | NC | = | 863 | CORR FAN SPEED = | RPM | | | |

ORIGINAL PAGE IS
OF POOR QUALITY

263

| | | |
|------------------------|--------------|--------|
| IDENTIFICATION - MODEL | 81F-400-1302 | X1302C |
| BACKGROUND | 81F-400-0300 | X03000 |

ANGLES MEASURED FROM INLET, DEGREES

160.

PWL

ORIGINAL PAGE IS
OF POOR QUALITY

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 84.9 | 84.7 | 79.7 | 83.3 | 80.1 | 83.2 | 81.1 | 83.3 | 84.4 | 87.8 | 90.4 | 90.9 | 95.0 | 128.4 |
| 53 | 86.5 | 86.8 | 85.3 | 84.7 | 87.0 | 86.2 | 88.1 | 88.8 | 90.6 | 91.7 | 92.4 | 95.8 | 130.9 | |
| 60 | 87.0 | 91.1 | 86.1 | 87.4 | 87.2 | 89.3 | 90.0 | 89.1 | 90.8 | 94.2 | 93.8 | 100.4 | 133.9 | |
| 80 | 87.0 | 91.1 | 86.1 | 87.4 | 87.2 | 89.3 | 90.0 | 89.1 | 90.8 | 94.2 | 93.8 | 100.4 | 133.9 | |
| 100 | 86.8 | 90.3 | 86.2 | 89.1 | 88.2 | 91.2 | 90.5 | 90.4 | 93.3 | 98.0 | 98.3 | 100.4 | 133.9 | |
| 125 | 84.1 | 86.1 | 86.7 | 87.9 | 88.0 | 89.2 | 89.8 | 89.2 | 89.5 | 91.7 | 97.6 | 101.5 | 136.1 | |
| 160 | 81.0 | 81.3 | 83.6 | 84.1 | 83.7 | 84.8 | 86.2 | 86.6 | 87.3 | 92.4 | 97.8 | 101.7 | 136.2 | |
| 200 | 81.5 | 82.8 | 83.3 | 83.9 | 83.7 | 86.3 | 87.2 | 89.9 | 92.8 | 93.1 | 96.5 | 104.0 | 138.0 | |
| 250 | 80.8 | 84.3 | 86.1 | 85.5 | 87.1 | 89.5 | 91.4 | 93.3 | 97.9 | 103.8 | 107.7 | 108.4 | 140.9 | |
| 315 | 81.1 | 84.9 | 84.6 | 85.9 | 86.3 | 89.6 | 91.8 | 93.9 | 98.3 | 102.7 | 106.8 | 110.0 | 143.3 | |
| 400 | 82.3 | 84.9 | 84.6 | 86.4 | 86.0 | 89.4 | 91.3 | 93.4 | 98.9 | 104.5 | 108.6 | 111.3 | 144.2 | |
| 500 | 82.6 | 85.7 | 84.8 | 87.2 | 87.0 | 89.1 | 91.2 | 93.4 | 96.4 | 103.7 | 110.1 | 110.5 | 143.8 | |
| 630 | 82.6 | 85.6 | 84.9 | 87.2 | 87.0 | 89.1 | 91.2 | 93.4 | 96.4 | 103.7 | 110.1 | 110.5 | 143.8 | |
| 800 | 89.5 | 91.0 | 89.5 | 89.0 | 89.9 | 90.5 | 91.6 | 94.8 | 98.4 | 103.8 | 109.2 | 107.9 | 142.8 | |
| 1000 | 93.2 | 93.0 | 89.8 | 90.3 | 89.9 | 91.5 | 92.9 | 95.1 | 99.4 | 103.4 | 108.0 | 104.9 | 141.7 | |
| 1250 | 103.5 | 104.5 | 97.8 | 95.3 | 94.5 | 96.3 | 96.6 | 96.6 | 100.5 | 103.6 | 106.8 | 102.7 | 143.0 | |
| 1600 | 109.3 | 107.6 | 106.8 | 104.4 | 99.7 | 96.3 | 97.5 | 100.4 | 104.0 | 106.1 | 101.0 | 96.2 | 146.0 | |
| 2000 | 106.7 | 108.1 | 108.2 | 107.6 | 106.5 | 102.6 | 97.5 | 97.1 | 99.8 | 104.4 | 103.8 | 98.6 | 147.0 | |
| 2500 | 103.7 | 104.0 | 104.2 | 105.5 | 107.4 | 107.5 | 103.6 | 100.5 | 103.6 | 102.4 | 97.0 | 92.8 | 146.4 | |
| 3150 | 104.3 | 104.3 | 103.3 | 103.1 | 103.2 | 106.0 | 106.4 | 102.6 | 101.2 | 102.9 | 102.2 | 95.9 | 145.9 | |
| 4000 | 102.7 | 102.5 | 103.0 | 103.3 | 102.1 | 102.8 | 104.0 | 105.0 | 103.3 | 102.2 | 99.5 | 94.4 | 145.1 | |
| 5000 | 101.4 | 102.0 | 101.7 | 102.0 | 102.2 | 102.9 | 101.5 | 103.8 | 105.6 | 103.0 | 99.8 | 94.3 | 144.8 | |
| 6300 | 100.5 | 100.5 | 101.4 | 101.6 | 101.8 | 102.5 | 103.0 | 106.3 | 104.1 | 99.9 | 95.2 | 89.8 | 145.2 | |
| 8000 | 99.3 | 100.5 | 100.5 | 100.6 | 100.6 | 102.0 | 101.5 | 101.7 | 104.2 | 99.7 | 94.8 | 90.3 | 144.4 | |
| 10000 | 98.6 | 99.2 | 99.8 | 100.3 | 100.3 | 101.8 | 100.6 | 101.2 | 102.8 | 99.7 | 94.7 | 90.1 | 144.3 | |
| 12500 | 96.8 | | | | | | | | | | | | | |

DATPROC - FLTRAN

FLIGHT TRANSFORMED MODEL STD. PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-1302 X1302F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

200 87.9 90.2 87.9 89.2 87.0 87.1 87.6 87.8 94.8 98.3 101.9 105.6 106.6 139.4
250 87.9 90.2 87.9 89.2 88.1 89.8 90.4 91.1 95.6 100.4 104.1 107.6 108.3 140.9
315 87.9 90.2 87.9 89.2 89.6 89.6 90.0 90.7 97.4 102.1 107.3 109.7 106.4 142.7
400 88.8 91.2 89.6 89.3 87.9 89.6 90.0 90.7 97.4 102.1 107.3 109.7 106.4 142.7
500 90.0 91.3 89.6 89.8 89.3 89.6 90.0 90.9 93.3 95.1 102.0 108.4 110.7 143.4
630 89.9 92.1 89.7 90.5 89.0 89.5 90.6 91.8 97.5 102.8 108.6 110.0 104.9 143.3
800 90.2 92.0 89.9 90.7 91.0 91.0 91.0 93.2 98.9 103.0 108.3 106.4 106.2 142.4
1000 95.3 95.8 93.2 91.6 91.6 92.2 92.5 93.8 100.4 103.4 107.2 106.4 106.2 142.4
1250 100.1 98.6 94.0 93.2 97.3 95.2 95.5 100.4 103.8 106.4 104.3 106.6 142.7
1500 111.1 111.0 102.9 99.0 101.8 97.4 96.6 96.5 100.8 103.7 102.9 100.5 103.2 151.3
1600 111.1 111.0 102.9 99.0 101.8 97.4 96.6 96.5 100.8 103.7 102.9 100.5 103.2 151.3
2000 116.8 113.9 111.9 108.0 108.6 103.9 98.2 97.1 100.8 103.7 102.9 100.5 103.2 151.3
2500 112.9 113.2 110.7 110.3 109.1 103.9 98.5 102.7 104.5 104.5 101.3 103.9 151.3
3150 111.3 110.6 109.7 109.7 106.0 108.0 107.4 102.8 106.8 105.8 103.8 102.1 106.1 150.1
4000 109.3 109.0 107.4 106.5 105.4 106.1 106.4 105.4 106.8 104.4 103.3 101.4 106.0 149.1
5000 107.8 107.3 107.3 107.0 106.0 105.9 103.9 105.4 107.8 105.2 101.4 99.9 102.0 148.5
6300 107.4 107.7 106.9 106.4 105.7 105.5 104.5 103.7 106.9 106.3 102.9 101.7 105.0 148.5
8000 106.5 107.6 106.5 106.0 104.6 105.0 103.9 103.2 105.9 103.4 101.9 104.8 148.4
10000 105.6 106.3 105.6 104.9 104.3 103.0 102.8 104.4 104.2 102.7 101.9 103.6 148.1
12500 105.4 105.3 105.0 104.5 103.1 103.5 101.4 101.1 102.8 102.5 100.9 101.9 102.5 147.9
15000 103.1 103.3 102.7 102.0 100.9 101.3 100.2 100.4 100.7 99.3 98.1 100.4 99.7 147.1
20000 99.5 101.1 100.4 99.8 98.3 99.6 98.3 97.0 98.3 96.2 95.3 96.7 95.8 146.3
25000 97.0 97.8 96.8 97.2 95.9 97.7 96.3 93.8 95.6 93.7 93.3 93.8 93.4 146.0
31500 91.9 94.8 92.9 93.1 91.8 93.7 92.1 91.3 93.9 88.2 91.2 90.6 90.3 145.6
40000 86.1 90.5 87.6 88.8 89.1 91.1 88.9 87.3 91.1 84.8 90.3 86.5 87.4 146.1
50000 83.5 85.9 86.8 85.8 85.7 85.5 82.6 80.0 77.8 79.1 96.3 78.6 90.6 156.2
63000 74.2 89.0 76.8 84.4 78.8 90.6 80.0 77.8 79.1 96.3 78.6 90.6 156.2
80000 64.8 89.2 71.1 85.7 75.5 92.9 74.7 71.5 86.0 69.2 86.5 68.8 80.8 159.2

QASPL 121.2 120.4 118.8 117.5 116.6 116.2 114.4 113.6 116.4 116.7 118.0 118.5 118.0 164.0
PNL 133.4 132.6 131.2 129.9 129.3 128.5 127.4 126.7 129.3 128.9 128.5 127.6 129.6
PNLT 136.2 134.2 131.2 129.9 129.3 129.6 127.4 126.7 129.3 128.9 128.5 127.6 129.6
DBA 189.3 209.6 193.5 206.1 196.6 213.2 196.4 193.5 209.0 192.6 209.5 192.5 203.9

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CONT. CONV. ANN. PLUG NGZ. SC-3/NAS3-22514

VEHICL = ADH105 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = 3 FLTVL = 400. FPS
IAPLHA = SB59 IEQA = NO EXT AREA = FULL SPHERE TAMB F = 82.50 PAMB HG = 29.43 RELHUM = 64.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL RPM XNHR = RPM V8 = 1677.1 FPS AE8 = 25.3 SQ IN
FNAMB = LBS XNL RPM XNHR = RPM V18 = 1677.1 FPS AE18 = 0. SQ IN

RUNPT = 81F-400-1302 TAPE = X1302F TEST PT NO = 1302 NC = 863 CORR FAN SPEED = RPM

ORIGINAL PAGE 13
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-1302 X13021

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREQ 50 66.7 70.8 70.2 70.6 69.6 71.5 71.7 72.0 78.0 81.6 85.3 85.5 78.9 160.2

63 68.0 70.8 70.2 71.1 71.0 71.4 72.6 74.6 75.7 81.5 86.4 86.5 78.5 160.9

80 67.8 71.6 70.3 71.8 70.6 71.3 72.3 73.1 78.0 82.2 86.5 85.7 77.2 160.7

100 68.0 71.4 70.4 71.9 73.0 72.7 74.4 79.3 82.4 86.2 84.1 78.3 160.4

125 73.1 75.1 73.6 72.7 73.1 73.9 74.1 74.9 80.8 82.7 84.9 81.8 78.2 159.9

160 77.6 77.8 74.3 74.2 78.8 76.9 76.7 76.5 80.6 82.9 83.9 79.5 78.2 160.1

200 88.4 89.9 83.0 79.8 83.1 78.8 77.9 77.4 80.8 84.1 82.4 78.0 76.8 164.4

250 93.7 92.6 91.7 88.6 89.7 85.1 79.3 77.7 80.6 82.3 79.9 74.9 73.6 168.8

315 89.4 91.6 91.9 91.0 91.1 90.0 84.7 78.9 82.3 82.9 81.1 75.2 73.5 168.7

400 87.3 88.5 88.9 89.7 86.5 88.7 87.9 82.8 86.0 83.7 79.9 75.3 74.7 167.5

500 84.9 86.3 86.3 85.6 85.8 86.6 86.3 87.3 83.3 78.8 74.0 73.6 166.5

630 82.8 84.4 85.9 86.5 86.0 86.9 84.9 86.4 82.4 76.5 71.8 68.5 165.9

800 82.0 84.4 85.1 85.6 85.4 84.2 82.9 85.1 83.1 77.5 72.9 70.4 166.0

1000 80.6 84.1 84.5 85.0 84.1 84.7 83.5 82.2 83.9 82.2 77.6 69.1 165.8

1250 79.2 82.4 83.4 83.8 84.4 82.5 81.6 82.1 80.3 76.4 71.6 66.4 165.5

1600 78.1 80.9 82.3 83.0 82.2 80.5 79.6 80.1 78.0 73.7 70.2 63.0 165.3

2000 74.9 78.2 79.6 80.2 79.9 78.7 77.6 74.4 69.9 65.3 60.6 48.3 163.7

2500 69.5 74.8 76.5 77.4 76.8 78.3 76.7 74.5 69.9 65.3 60.0 52.7 163.5

3150 63.6 69.1 71.0 73.2 72.9 75.0 73.3 69.8 65.8 60.0 52.7 37.5 163.5

4000 52.3 61.4 63.3 65.9 65.9 68.2 66.2 64.0 64.3 54.8 51.6 40.7 163.0

5000 36.7 49.4 51.8 56.2 58.1 60.7 57.9 54.6 43.8 40.9 22.8 163.5

6300 16.3 35.9 38.0 43.4 41.6 49.7 43.1 38.1 26.3 26.0 167.4

8000 16.3 35.9 38.0 43.4 41.6 49.7 43.1 38.1 26.3 26.0 167.4

10000 176.6

12500 173.6

16000 167.4

20000 163.5

25000 163.0

31500 163.5

40000 163.5

50000 163.5

63000 163.5

80000 163.5

100000 163.5

125000 163.5

160000 163.5

200000 163.5

250000 163.5

315000 163.5

400000 163.5

500000 163.5

630000 163.5

800000 163.5

1000000 163.5

1250000 163.5

1600000 163.5

2000000 163.5

2500000 163.5

3150000 163.5

4000000 163.5

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-1313 X1313C

BACKGROUND 81F-400-0300

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 84.7 84.5 83.2 82.3 82.6 83.7 83.4 84.3 105.2 84.1 89.4 92.4 93.3 137.1

63 90.0 88.8 88.9 88.8 88.9 89.5 90.5 90.4 89.6 99.1 90.6 92.0 97.4 98.1 135.1

80 87.5 87.1 87.6 88.5 91.1 91.7 90.9 98.3 91.7 92.8 95.5 97.1 134.7

100 88.3 92.3 87.6 89.7 90.0 91.4 92.2 94.2 97.5 93.4 96.1 99.8 101.4 136.4

125 85.9 88.1 89.4 90.4 91.3 92.9 93.0 92.7 96.3 95.2 100.6 104.8 106.2 139.1

160 86.3 83.3 87.3 86.9 87.5 89.6 90.5 90.9 95.6 95.4 100.8 105.5 108.6 139.8

200 84.8 87.6 88.3 88.9 89.2 91.8 92.2 94.9 95.8 98.4 102.8 108.7 111.6 142.6

250 85.3 92.1 89.3 90.1 90.7 93.3 95.7 96.6 96.1 102.9 108.8 113.0 114.4 146.3

315 87.1 91.1 89.9 92.2 92.8 95.6 96.8 98.9 95.7 106.7 110.6 115.0 116.4 148.4

400 88.1 90.6 91.1 91.2 91.3 94.4 96.0 98.4 95.6 108.4 113.1 116.8 118.4 149.7

500 88.2 92.5 91.0 91.5 92.6 95.0 96.9 98.8 95.0 108.3 114.2 118.4 117.8 151.0

630 93.3 92.4 92.9 94.0 94.9 97.0 98.9 99.2 109.4 115.1 118.7 117.9 151.4

800 93.7 92.7 93.3 93.8 94.6 96.5 97.4 100.0 95.9 109.3 115.2 118.4 117.0 151.2

1000 100.5 100.8 100.3 99.3 98.7 98.5 99.4 100.8 95.8 109.6 114.7 118.4 117.8 151.5

1250 105.0 104.0 100.8 100.3 100.7 101.3 100.9 101.8 96.7 109.6 114.0 117.2 116.2 151.2

1500 109.3 106.8 106.3 104.1 100.5 99.8 101.8 102.0 96.3 109.3 113.1 117.2 116.2 151.1

2000 108.2 108.3 107.2 107.4 105.5 102.8 100.5 102.1 95.8 109.7 111.5 115.6 113.9 150.5

2500 106.2 106.2 106.2 107.0 106.3 106.5 104.5 102.5 97.2 109.3 110.4 114.0 112.2 149.8

3150 105.5 106.1 105.8 105.4 107.3 106.4 104.3 102.3 97.9 108.1 110.0 112.2 109.8 149.2

4000 103.7 104.5 104.7 105.5 104.6 105.6 106.2 106.5 97.8 106.9 108.2 111.1 108.3 148.4

5000 102.6 103.4 104.0 104.5 104.4 104.9 104.3 106.1 98.9 106.8 106.7 108.5 107.2 147.5

6300 101.7 104.2 103.6 104.6 104.3 105.0 104.2 105.5 99.5 108.6 105.9 108.4 105.8 147.5

8000 100.5 102.7 103.1 103.1 103.6 104.6 103.9 99.4 106.9 103.8 106.7 105.3 146.9

10000 99.5 100.6 101.9 103.2 103.7 104.2 103.3 99.5 105.6 103.3 105.3 104.7 146.9

12500 97.1 99.5 100.3 100.8 102.1 103.4 102.3 98.7 103.3 102.2 103.6 101.5 146.1

16000 92.4 97.4 98.1 99.0 99.4 101.1 100.2 98.0 100.6 99.5 101.9 99.9 145.5

20000 92.1 95.1 95.2 96.9 96.9 99.0 98.8 98.6 96.6 98.1 96.9 100.7 145.1

25000 88.3 93.7 92.2 93.4 94.5 96.6 96.6 95.0 96.5 94.7 94.1 96.1 144.9

31500 83.4 91.1 88.2 91.5 90.5 92.0 93.0 92.6 90.8 91.4 92.3 86.6 144.6

40000 79.0 90.4 84.8 89.6 86.4 92.0 88.9 88.4 90.8 86.0 89.2 89.6 146.0

50000 74.8 90.5 80.4 89.5 82.6 90.6 84.6 83.5 89.4 83.6 87.1 87.0 148.5

63000 70.1 91.4 77.4 80.5 81.7 80.5 81.0 79.8 90.9 80.4 87.9 85.0 154.3

80000 69.3 91.1 76.2 81.8 77.6 77.6 78.1 75.3 93.4 76.4 88.8 82.4 161.5

QASPL 115.6 115.8 115.3 115.7 115.1 115.8 115.3 115.7 112.7 120.7 124.3 128.0 127.3 165.5

PMLT 127.9 128.5 127.9 129.1 128.7 129.0 123.4 132.9 135.1 138.5 137.3

DBA 116.3 116.1 115.6 115.8 115.0 115.4 114.9 115.1 109.1 120.2 123.5 127.1 126.0

NASA SHOCK CELL/CONT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICLE = ADH101 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = 3
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 76.00 MIKE HT = 29.40
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC NBFR = 0. FPS
FNINI = LBS XNL = RPM XNH XNHR = RPM V8 = 1722.9 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNL = RPM XNH XNHR = RPM V8 = 1722.9 FPS AE8 = 25.3 SQ IN
RUNPT = 81F-ZER-1313 TAPE = X1313C TEST PT NO = 1313 NC = 863 CORR FAN SPEED = RPM

ORIGINAL PAGE 12
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - B1F-ZER-1313 X1313F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 84.7 84.5 83.2 82.3 82.6 83.7 83.4 84.3 105.2 84.1 89.4 92.4 93.3 137.1

63 90.0 90.8 89.3 88.8 88.9 90.5 90.4 89.6 99.1 90.6 92.0 97.4 98.1 135.1

80 87.5 91.8 87.1 87.6 88.5 91.1 91.7 90.9 98.3 91.7 92.8 95.5 97.1 134.7

100 88.3 92.3 87.6 89.7 90.0 91.4 92.2 93.0 97.5 93.4 96.1 99.8 101.4 136.4

125 85.9 88.1 89.4 90.4 91.3 92.9 93.0 92.7 96.3 95.2 100.6 104.8 106.2 139.1

160 86.3 83.3 87.3 86.9 87.5 89.6 90.5 90.9 95.6 95.4 100.8 105.5 108.6 139.8

200 84.8 87.6 88.3 88.9 89.2 91.8 92.2 94.9 95.8 98.4 102.8 108.7 111.6 142.6

250 85.3 92.1 89.3 90.1 90.7 93.3 95.7 96.6 96.1 102.9 108.8 113.0 114.4 146.3

315 87.1 91.1 89.9 92.2 92.8 95.6 96.8 98.9 95.7 106.7 110.6 115.0 116.4 148.4

400 88.1 90.6 91.1 91.2 91.3 94.4 96.0 98.4 95.6 108.4 113.1 116.8 118.4 149.7

500 88.2 92.5 91.0 91.5 92.6 95.0 96.9 98.8 95.0 108.3 114.2 118.4 119.9 151.0

630 90.3 92.6 92.4 92.9 94.0 94.9 97.0 98.9 95.2 109.4 115.1 118.7 117.9 151.4

800 93.7 92.7 93.3 93.8 94.6 96.5 97.4 100.0 95.9 109.3 115.2 118.4 117.0 151.2

1000 100.5 100.8 100.3 100.7 101.3 100.9 101.8 102.6 96.7 109.6 114.0 118.2 116.7 151.2

1250 105.0 104.0 100.8 100.3 100.7 101.3 100.9 101.8 96.7 109.6 114.0 118.2 116.7 151.2

1500 109.3 106.8 106.3 104.1 100.5 99.8 101.8 102.0 96.3 109.3 113.1 117.2 116.2 151.1

2000 108.2 108.3 107.2 107.4 105.5 102.8 100.5 102.1 95.8 109.7 111.5 115.6 113.9 150.5

2500 106.2 106.2 106.2 107.0 106.3 106.5 104.5 102.5 97.2 109.3 110.4 114.0 112.2 149.8

3150 105.5 105.3 105.8 105.4 107.3 106.4 104.3 106.4 97.9 108.1 110.0 112.2 109.8 149.2

4000 103.7 104.5 104.7 105.5 104.6 105.6 106.2 106.5 97.8 106.9 108.2 111.1 108.3 148.4

5000 102.6 103.4 104.0 104.5 104.3 104.9 106.1 108.3 98.9 106.8 106.7 108.5 107.2 147.5

6300 101.7 104.2 103.6 104.6 104.3 105.0 104.2 105.5 99.5 106.6 105.9 108.4 105.8 147.5

8000 100.5 101.9 102.7 103.1 103.1 104.6 104.0 103.9 99.4 106.9 103.8 106.7 105.3 146.9

10000 99.5 100.6 101.9 103.2 103.7 103.3 103.6 103.3 99.5 105.6 103.3 104.7 104.9 146.1

12500 97.1 99.5 100.3 100.8 102.1 103.4 102.3 101.8 98.7 103.3 102.2 103.6 101.5 146.1

16000 94.4 97.4 98.1 99.0 99.4 101.1 100.2 101.0 98.0 100.6 99.5 101.9 99.9 145.5

20000 92.1 95.1 95.2 96.9 96.9 98.8 98.6 98.6 96.6 98.1 96.9 100.7 96.7 145.1

25000 88.3 93.4 93.7 94.5 94.5 96.6 96.6 96.5 94.7 94.1 96.1 98.7 144.9

31500 83.4 91.1 88.2 91.5 90.5 94.2 93.0 91.7 92.6 90.8 91.4 92.3 86.6 144.6

40000 79.0 90.4 84.8 89.6 86.4 92.0 88.9 88.4 90.8 86.0 89.2 89.6 82.9 146.0

50000 74.8 90.5 80.4 89.5 82.6 90.6 84.6 83.5 89.4 83.6 87.1 87.0 79.8 148.5

63000 70.1 91.4 77.4 80.5 81.7 81.0 81.7 79.8 90.9 80.4 87.9 85.0 79.0 154.3

80000 69.3 91.1 76.2 91.8 90.5 90.5 78.1 75.3 93.4 76.4 88.8 82.4 79.9 161.5

GASPL 115.6 115.8 115.3 115.7 115.1 115.8 115.3 115.7 112.7 120.7 124.3 128.0 127.3 165.5

PWL 127.9 128.5 128.0 128.5 127.9 129.1 128.7 129.0 123.4 132.9 135.1 138.5 137.3

PWL 127.9 128.5 128.0 128.5 127.9 129.1 128.7 129.0 123.4 132.9 135.1 138.5 137.3

DBA 190.0 211.6 196.9 212.2 198.5 211.0 199.2 196.7 213.7 197.6 209.2 203.3 200.3

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CONT. CONV. ANN. PLUG NGZ. SC-3/NAS3-22514

VEHICL = ADH101 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONF10 = 3 MODEL = 3
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 76.00 MIKE HT = 29.40 RELHUM = 89.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONF10 = ARC NBFR = 0. FPS

FNINI = LBS XNL RPM XNHR = RPM V8 = 1722.9 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNL RPM XNHR = RPM V8 = 1722.9 FPS AE8 = 25.3 SQ IN

RUNPT = ZER-1313 TAPE = X1313F TEST PT NO = 1313 NC = 863 CORR FAN SPEED = RPM

ORIGINAL PAGE 13
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-1313 X13131

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 66.1 70.1 71.7 72.5 73.0 76.2 77.7 79.7 76.2 88.0 91.1 92.6 88.9 167.1
63 66.2 72.0 71.6 72.8 74.3 76.8 78.7 80.1 75.5 87.8 92.2 94.1 90.2 168.4
80 68.2 72.1 72.9 74.2 75.7 76.7 78.7 80.2 75.7 88.9 93.0 94.4 90.2 168.9
100 71.5 72.1 73.7 75.0 76.3 78.3 79.0 81.3 76.3 88.7 93.0 94.0 89.2 168.6
125 78.2 80.1 80.7 80.4 80.2 81.0 81.9 76.2 88.9 92.4 93.8 89.7 168.9
150 82.5 83.2 81.1 81.3 82.1 82.9 82.4 82.8 77.0 88.8 91.5 93.4 88.2 168.6
200 86.5 85.7 86.4 85.0 81.7 81.2 83.1 82.8 76.4 88.2 90.4 92.1 87.3 168.5
250 85.1 87.0 87.1 88.0 86.5 84.0 81.5 82.7 75.6 88.3 88.5 90.0 84.3 167.9
315 82.7 84.5 85.8 87.4 87.2 87.4 85.4 82.9 76.8 87.6 87.0 87.9 81.9 167.3
400 81.5 84.0 84.5 85.9 85.9 85.9 86.9 86.9 84.4 77.1 86.0 85.4 78.4 166.6
500 79.3 82.0 83.6 85.2 84.8 85.9 86.4 86.2 76.7 84.5 83.7 83.7 76.0 165.9
630 77.7 80.6 82.5 83.9 84.4 85.0 84.2 85.5 77.4 83.9 81.8 80.4 73.7 164.9
800 76.3 80.9 81.8 83.8 84.0 84.9 83.9 84.6 77.7 83.3 80.4 79.6 71.2 165.0
1000 74.7 78.4 80.7 82.1 82.7 84.4 83.6 82.9 77.4 83.4 78.0 77.3 69.5 164.4
1250 73.1 76.8 79.7 82.0 83.1 83.8 82.7 82.5 77.2 81.7 77.0 75.1 67.6 164.3
1500 69.9 75.0 77.6 79.3 81.3 80.3 79.2 79.3 76.0 78.9 75.0 72.0 62.0 163.6
2000 66.2 72.3 75.1 77.3 78.4 80.3 77.7 77.3 72.6 71.8 66.9 64.6 48.9 162.5
2500 62.1 68.8 71.3 74.4 75.4 77.7 77.3 76.2 72.6 71.8 66.9 64.6 48.9 162.5
3150 55.0 64.9 66.4 69.4 71.6 73.7 73.7 71.1 70.7 65.9 60.7 55.1 33.9 162.3
4000 43.8 57.7 58.6 64.2 64.6 68.7 67.1 64.4 63.0 57.4 51.8 42.3 25.9 162.1
5000 29.7 49.4 49.0 55.5 56.7 61.7 58.0 55.8 53.0 44.9 39.8 28.4 20.0 166.0
6300 7.6 35.2 32.5 46.1 41.6 50.4 43.6 40.1 41.5 28.4 20.0 166.0 171.8 178.9

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MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH101 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIO = 3 MODEL = 3 FLVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 76.00 PAMB HG = 29.40 RELHUM = 69.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIO = SL MIKE HT = NBFR
FNINI = LBS XNL RPM XNH XNHR = RPM V8 = FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNLR = RPM XNH XNHR = RPM V8 = FPS AE8 = 25.3 SQ IN
RUNPT = 81F-ZER-1313 TAPE = X13131 TEST PT NO = 1313 NC = 863 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL B1F-400-1314 X1314C
BACKGROUND B1F-400-0300 X03000

ANGLES MEASURED FROM INLET, DEGREES

| | | | | | | | | | | | | | |
|------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|
| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 86.4 | 90.7 | 80.7 | 83.3 | 82.9 | 83.7 | 84.1 | 87.3 | 85.7 | 100.6 | 91.9 | 102.9 | 97.3 | 135.8 |
| 63 | 85.7 | 90.8 | 84.8 | 89.8 | 88.4 | 89.8 | 89.9 | 88.6 | 90.1 | 100.4 | 92.0 | 102.2 | 97.3 | 136.1 |
| 80 | 88.8 | 93.6 | 88.4 | 89.0 | 91.6 | 92.5 | 90.9 | 92.5 | 90.7 | 98.7 | 93.0 | 102.0 | 98.6 | 136.3 |
| 100 | 88.1 | 91.6 | 87.1 | 88.7 | 89.2 | 90.6 | 91.5 | 90.7 | 91.5 | 97.2 | 94.1 | 100.3 | 101.2 | 135.7 |
| 125 | 85.4 | 89.6 | 88.2 | 89.2 | 89.3 | 91.9 | 91.5 | 89.9 | 91.5 | 98.2 | 98.9 | 104.0 | 105.5 | 138.3 |
| 160 | 82.8 | 88.3 | 85.6 | 84.9 | 85.2 | 86.6 | 87.7 | 88.1 | 88.8 | 98.4 | 99.0 | 104.2 | 107.4 | 138.6 |
| 200 | 83.0 | 88.8 | 85.1 | 86.1 | 86.2 | 88.6 | 91.2 | 92.1 | 95.3 | 101.4 | 105.5 | 107.7 | 110.1 | 142.2 |
| 250 | 82.8 | 89.1 | 86.1 | 86.2 | 86.6 | 88.6 | 91.2 | 92.1 | 95.3 | 101.4 | 105.5 | 107.7 | 110.1 | 142.2 |
| 315 | 81.8 | 89.1 | 85.9 | 86.4 | 87.5 | 91.1 | 93.0 | 93.4 | 99.0 | 104.4 | 107.3 | 110.0 | 110.9 | 144.1 |
| 400 | 83.6 | 86.7 | 86.1 | 86.7 | 86.8 | 90.4 | 92.3 | 94.2 | 99.9 | 106.2 | 109.8 | 110.8 | 109.9 | 145.0 |
| 500 | 83.9 | 90.5 | 87.0 | 87.3 | 88.4 | 90.5 | 92.9 | 94.8 | 100.2 | 106.6 | 110.7 | 111.1 | 107.3 | 145.2 |
| 630 | 84.8 | 90.8 | 87.4 | 87.7 | 88.2 | 90.1 | 92.5 | 94.4 | 97.9 | 106.4 | 111.6 | 110.7 | 103.9 | 145.1 |
| 800 | 97.5 | 99.2 | 99.0 | 94.0 | 95.5 | 97.0 | 100.9 | 107.6 | 111.0 | 108.9 | 100.1 | 100.1 | 145.3 | |
| 1000 | 101.5 | 99.8 | 95.3 | 94.3 | 93.2 | 93.8 | 94.7 | 96.3 | 100.6 | 106.6 | 110.0 | 106.9 | 97.3 | 144.3 |
| 1250 | 107.0 | 107.5 | 104.1 | 101.1 | 97.2 | 95.5 | 96.6 | 101.2 | 106.6 | 109.0 | 105.2 | 96.2 | 96.2 | 145.8 |
| 1600 | 107.5 | 106.6 | 109.3 | 110.4 | 107.7 | 102.3 | 98.8 | 97.7 | 101.4 | 106.8 | 107.9 | 102.7 | 95.7 | 148.4 |
| 2000 | 104.2 | 104.8 | 105.7 | 106.9 | 107.7 | 108.1 | 103.0 | 98.9 | 101.8 | 106.4 | 105.5 | 101.6 | 95.1 | 147.4 |
| 2500 | 104.9 | 103.7 | 103.7 | 103.8 | 103.9 | 107.0 | 107.1 | 101.3 | 102.5 | 105.8 | 104.4 | 100.0 | 94.0 | 146.6 |
| 3150 | 103.3 | 103.8 | 104.1 | 102.4 | 104.0 | 105.1 | 103.4 | 103.9 | 105.6 | 104.2 | 99.2 | 92.6 | 146.0 | |
| 4000 | 102.5 | 102.2 | 103.5 | 103.1 | 102.7 | 103.8 | 105.6 | 105.0 | 102.7 | 97.9 | 92.9 | 145.5 | | |
| 5000 | 101.4 | 102.0 | 101.5 | 102.2 | 101.9 | 102.8 | 102.5 | 102.8 | 105.9 | 104.8 | 101.8 | 98.1 | 91.7 | 145.2 |
| 6300 | 101.0 | 102.5 | 101.9 | 101.8 | 102.8 | 102.0 | 102.5 | 105.8 | 105.1 | 101.9 | 98.2 | 91.3 | 145.3 | |
| 8000 | 99.3 | 101.2 | 101.0 | 101.1 | 100.9 | 102.2 | 101.5 | 102.0 | 104.4 | 105.3 | 97.8 | 90.8 | 145.0 | |
| 10000 | 98.3 | 100.0 | 101.0 | 101.0 | 101.0 | 101.8 | 101.5 | 103.6 | 103.8 | 104.7 | 100.9 | 98.4 | 91.6 | 145.1 |
| 12500 | 97.0 | 98.4 | 98.7 | 99.7 | 99.8 | 101.0 | 100.0 | 99.7 | 101.9 | 103.5 | 97.5 | 89.9 | 144.6 | |
| 16000 | 94.3 | 97.4 | 96.6 | 97.5 | 97.6 | 99.3 | 98.5 | 99.5 | 103.4 | 97.3 | 96.9 | 89.2 | 144.5 | |
| 20000 | 91.9 | 94.5 | 93.6 | 95.7 | 95.0 | 98.1 | 96.7 | 97.0 | 102.0 | 94.6 | 96.3 | 87.0 | 144.4 | |
| 25000 | 88.1 | 92.5 | 90.5 | 95.7 | 91.8 | 97.7 | 94.4 | 92.6 | 91.6 | 92.6 | 89.4 | 88.6 | 143.2 | |
| 31500 | 82.6 | 90.5 | 86.0 | 94.8 | 88.5 | 95.4 | 91.0 | 90.0 | 88.2 | 87.5 | 87.0 | 84.3 | 143.8 | |
| 40000 | 78.3 | 89.6 | 82.0 | 94.5 | 85.2 | 94.8 | 87.7 | 86.3 | 87.8 | 82.6 | 85.1 | 80.7 | 146.5 | |
| 50000 | 73.4 | 91.3 | 78.0 | 96.0 | 81.7 | 95.7 | 84.8 | 81.2 | 86.3 | 79.4 | 83.9 | 75.6 | 151.3 | |
| 63000 | 67.4 | 94.3 | 76.8 | 98.7 | 80.4 | 96.3 | 85.4 | 77.1 | 88.1 | 75.5 | 85.2 | 71.1 | 158.4 | |
| 80000 | 65.2 | 98.1 | 78.4 | 99.1 | 80.1 | 95.7 | 86.8 | 74.6 | 89.4 | 76.1 | 87.3 | 67.6 | 166.1 | |

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| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| GASPL | 114.4 | 115.0 | 114.8 | 115.6 | 114.4 | 115.0 | 113.9 | 113.0 | 115.5 | 118.8 | 120.1 | 119.7 | 118.1 | 167.6 |
| PNL | 126.4 | 127.1 | 126.8 | 127.4 | 127.7 | 127.4 | 126.2 | 128.6 | 130.8 | 130.4 | 128.3 | 125.1 | | |
| PMLT | 127.9 | 128.5 | 129.4 | 129.9 | 129.1 | 129.3 | 127.4 | 126.2 | 130.8 | 130.4 | 128.3 | 125.1 | | |
| DBA | 115.0 | 115.0 | 115.2 | 115.7 | 114.7 | 114.9 | 113.8 | 112.4 | 114.9 | 117.7 | 118.8 | 116.6 | 112.2 | |

NASA SHOCK CELL/CONT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

| | | | | | | | | | | | |
|----------------|----------|------------|------------|------------|----------------|----------|---------|----------|-----------|------------|------------|
| VEHICL | = ADH104 | TEST DATE | = 09-01-81 | LOCAT | = C41 ANECH CH | CONFIG | = 3 | MODEL | = 3 | FLTVEL | = 400. FPS |
| IAPLHA | = SB59 | LEGA | = NO | PML AREA | = FULL SPHERE | TAMB F | = 82.50 | PAMB HG | = 29.40 | RELHUM | = 64.0 PCT |
| WIND DIR | = | DEG | = | WIND VEL | = | MPH | = | EXT DIST | = 40.0 FT | EXT CONFIG | = ARC |
| FNIN1 | = | LBS | = | XNL | = | RPM | = | XNH | = | RPM | = |
| FNRAMB | = | LBS | = | XNLR | = | RPM | = | XNHR | = | RPM | = |
| NC | = | 663 | | TEST PT NO | = | 1314 | | VE8 | = | 1727.9 FPS | |
| AE18 | = | 25.3 SQ IN | | AE8 | = | 0. SQ IN | | AE18 | = | 0. SQ IN | |
| CORR FAN SPEED | = | RPM | | | | | | | | | |

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - B1F-400-1314 X13141

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREQ 50 60 70 80 90 100 110 120 130 140 150 160

50 60 70 80 90 100 110 120 130 140 150 160

60 70 80 90 100 110 120 130 140 150 160

70 80 90 100 110 120 130 140 150 160

80 90 100 110 120 130 140 150 160

90 100 110 120 130 140 150 160

100 110 120 130 140 150 160

110 120 130 140 150 160

120 130 140 150 160

130 140 150 160

140 150 160

150 160

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NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514
VEHICL = ADH104 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIO = 3 MODEL = 3 FLTVEL = 400. FPS
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE EXT DIST = 2400.0 FT EXT CONFIO = SL MIKE HT = 29.40 RELHUM = 64.0 PCT
WIND DIR = DEG WIND VEL = MPH
FNINI = LBS XNL RPM = XNH XNHR = V8 RPM = 1727.9 FPS AEB = 25.3 SQ IN
FNRAMB = LBS XNLR RPM = XNHR = V8 RPM = 1727.9 FPS AEB = 25.3 SQ IN
CORR FAN SPEED = RPM = 863
RUPNT = 00-1314 TAPE = X13141 TEST PT NO = 1314 NC = 863 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-1323 X1323C
BACKGROUND 81F-400-0300

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL 50 84.9 84.2 83.0 82.5 82.6 83.7 83.9 84.8 91.2 85.8 93.7 100.1 94.8 132.3

63 90.0 90.0 88.5 88.8 89.7 91.0 91.4 90.3 93.3 93.6 99.2 100.9 98.6 135.9

80 89.0 93.3 87.8 88.9 90.0 92.3 92.7 92.1 94.5 93.2 94.0 96.6 102.0 137.1

100 89.1 92.8 89.1 90.7 91.2 91.9 93.2 95.2 94.0 94.2 96.6 102.0 137.1

125 86.4 89.1 90.2 91.2 91.8 93.9 93.5 93.7 94.3 95.7 101.4 105.3 139.6

160 86.8 88.3 87.6 88.5 89.8 91.5 91.4 92.3 96.4 102.0 106.5 109.6 140.7

200 85.3 88.3 89.1 89.4 90.2 91.8 93.0 95.6 98.5 98.4 102.0 106.5 143.3

250 86.0 89.1 90.3 90.6 91.2 93.8 96.7 97.6 99.3 103.4 109.5 114.0 147.2

315 88.1 91.4 90.4 92.4 93.8 96.1 97.3 99.4 102.3 106.9 111.1 116.0 149.1

400 89.1 91.9 91.9 91.4 91.8 95.1 96.8 98.9 103.4 109.5 114.1 118.3 151.1

500 89.7 93.0 91.8 92.5 93.4 95.5 97.9 99.5 103.7 110.3 115.7 119.1 152.1

630 91.8 93.1 92.6 93.7 94.2 96.1 97.7 99.9 102.7 110.4 116.6 119.5 152.6

800 96.2 94.2 95.3 95.8 96.4 97.5 98.4 100.5 104.4 110.8 117.0 119.3 152.7

1000 104.3 102.8 103.3 102.8 101.3 101.4 101.8 105.4 110.4 116.5 119.9 119.9 153.3

1250 112.2 111.0 107.3 105.3 103.4 103.0 102.7 102.3 105.7 110.1 115.5 119.4 153.3

1600 114.0 111.8 112.6 111.6 108.5 104.6 103.8 104.2 106.4 110.2 114.4 118.2 153.8

2000 110.4 111.3 111.0 111.6 112.5 111.1 105.2 103.6 106.3 111.4 112.8 116.9 153.4

2500 108.9 109.5 108.0 109.0 109.4 111.7 110.6 107.0 110.6 111.7 115.2 112.5 152.5

3150 108.3 108.3 108.3 108.6 107.4 109.5 110.4 109.1 108.2 109.6 112.5 113.7 151.9

4000 107.2 107.2 107.0 107.6 107.7 107.8 107.3 107.7 109.8 109.3 111.9 110.9 150.9

5000 105.6 105.6 105.2 106.7 106.7 107.4 107.3 107.8 108.8 111.1 109.3 109.0 150.6

6300 104.5 106.5 105.9 106.1 106.6 107.3 107.0 107.5 110.3 109.1 107.7 109.5 150.2

8000 102.8 104.7 105.0 105.6 105.4 107.2 106.3 106.7 108.4 108.3 106.4 108.3 149.6

10000 101.8 104.0 105.0 105.6 105.5 104.5 104.2 105.4 105.0 104.6 105.3 101.6 148.5

12500 100.0 101.4 102.7 103.0 103.5 104.5 104.2 105.4 105.0 104.6 105.3 101.6 148.5

16000 97.1 100.1 100.4 100.5 101.3 103.3 102.7 103.5 103.8 102.8 101.2 103.6 147.9

20000 94.9 97.7 97.6 99.2 99.0 99.9 99.1 97.3 98.6 97.0 96.3 103.5 147.3

25000 94.5 96.0 94.7 96.4 96.5 96.6 95.7 94.4 95.9 94.2 93.9 95.0 147.4

31500 86.8 86.8 86.4 86.4 86.4 86.4 86.4 86.4 86.4 86.4 86.4 86.4 149.4

40000 83.0 83.0 83.0 83.0 83.0 83.0 83.0 83.0 83.0 83.0 83.0 83.0 153.1

50000 79.8 79.8 79.8 79.8 79.8 79.8 79.8 79.8 79.8 79.8 79.8 79.8 160.0

63000 75.0 75.0 75.0 75.0 75.0 75.0 75.0 75.0 75.0 75.0 75.0 75.0 168.6

80000 71.8 71.8 71.8 71.8 71.8 71.8 71.8 71.8 71.8 71.8 71.8 71.8 170.6

DBA 120.2 119.8 119.3 119.4 118.9 119.2 118.3 117.8 119.3 121.6 125.1 128.4 127.1

PWL 131.1 131.2 130.9 131.2 131.3 132.2 131.9 131.7 132.9 134.3 137.1 139.7 138.0

PNL 131.1 131.1 131.9 132.0 131.2 131.3 132.2 131.9 131.7 132.9 134.3 137.1 138.0

QASPL 119.5 119.4 118.8 119.0 118.5 119.2 118.3 118.1 119.8 122.1 125.9 129.2 128.4

NASA SHOCK CELL/CONT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH102 TEST DATE = 09-01-81 LOCAL = C41 ANECH CH CONFIG = 3 MODEL = 3 FLTVEL = 0. FPS

IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 82.00 PAMB HG = 29.40 RELHUM = 65.5 PCT

WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = 29.40 NBFR =

FNIN1 = LBS XNL RPM XNH XNHR = RPM V8 = 1763.1 FPS AEB = 25.3 SO IN

RUNPT = 81F-ZER-1323 TAPE = X1323C TEST PT NO = 1323 NC = 863 CORR FAN SPEED = RPM

ORIGINAL PAGE 13
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - BIF-ZER-1323 X1323F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | PWL |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 84.9 | 84.2 | 83.0 | 82.5 | 82.6 | 83.7 | 83.9 | 84.8 | 91.2 | 85.8 | 93.7 | 100.1 | 94.8 |
| 63 | 90.0 | 90.0 | 88.5 | 88.8 | 89.7 | 91.0 | 91.4 | 90.3 | 93.3 | 93.6 | 99.2 | 100.9 | 98.6 |
| 80 | 89.0 | 93.3 | 88.9 | 90.0 | 92.3 | 92.3 | 92.1 | 94.5 | 93.2 | 94.0 | 99.7 | 98.6 | 135.4 |
| 100 | 89.1 | 92.8 | 89.1 | 90.7 | 91.2 | 91.9 | 93.2 | 95.2 | 94.0 | 96.6 | 102.0 | 102.4 | 137.1 |
| 125 | 86.4 | 89.1 | 90.2 | 91.2 | 91.8 | 93.9 | 93.5 | 93.7 | 94.3 | 95.7 | 101.4 | 105.3 | 139.6 |
| 160 | 86.8 | 83.3 | 87.6 | 88.5 | 89.8 | 91.5 | 91.4 | 92.3 | 96.4 | 102.0 | 106.5 | 109.6 | 140.7 |
| 200 | 85.3 | 89.1 | 89.4 | 90.2 | 91.8 | 93.0 | 93.6 | 95.6 | 98.4 | 104.0 | 109.0 | 112.4 | 143.3 |
| 250 | 86.0 | 90.6 | 90.6 | 91.2 | 93.8 | 96.7 | 97.6 | 99.3 | 103.4 | 109.5 | 114.0 | 115.1 | 147.2 |
| 315 | 88.1 | 91.4 | 90.4 | 92.4 | 93.8 | 96.1 | 97.3 | 99.4 | 102.3 | 106.9 | 111.1 | 116.0 | 149.1 |
| 400 | 89.1 | 91.9 | 91.4 | 91.8 | 95.1 | 96.8 | 98.9 | 103.4 | 109.5 | 114.1 | 118.3 | 117.9 | 151.1 |
| 500 | 89.7 | 93.0 | 91.8 | 92.5 | 93.4 | 95.5 | 97.9 | 99.5 | 103.7 | 110.3 | 115.7 | 118.8 | 152.1 |
| 630 | 91.8 | 93.1 | 92.6 | 93.7 | 94.2 | 96.1 | 97.7 | 99.9 | 102.7 | 110.4 | 116.6 | 119.5 | 152.6 |
| 800 | 96.2 | 94.2 | 95.3 | 95.8 | 96.4 | 97.5 | 98.4 | 100.5 | 104.4 | 110.8 | 117.0 | 119.9 | 152.7 |
| 1000 | 105.7 | 104.3 | 103.3 | 102.8 | 101.3 | 101.4 | 101.8 | 105.4 | 110.4 | 116.5 | 119.9 | 119.8 | 153.3 |
| 1250 | 112.2 | 111.0 | 107.3 | 105.3 | 103.4 | 103.0 | 102.7 | 102.3 | 105.7 | 110.1 | 115.5 | 119.4 | 153.3 |
| 1600 | 114.0 | 111.8 | 112.6 | 111.6 | 108.5 | 104.6 | 103.8 | 104.2 | 106.4 | 110.3 | 114.6 | 118.2 | 153.8 |
| 2000 | 110.4 | 111.3 | 111.0 | 112.5 | 111.1 | 105.2 | 103.6 | 103.3 | 111.4 | 112.8 | 116.9 | 114.4 | 153.4 |
| 2500 | 108.9 | 109.5 | 108.0 | 109.0 | 109.4 | 111.7 | 110.8 | 106.0 | 107.0 | 110.6 | 111.7 | 115.2 | 152.5 |
| 3150 | 108.3 | 108.3 | 108.6 | 107.4 | 109.5 | 110.4 | 109.1 | 108.2 | 109.6 | 112.5 | 113.7 | 110.3 | 151.9 |
| 4000 | 107.2 | 107.2 | 107.0 | 108.0 | 107.6 | 107.8 | 107.3 | 109.8 | 109.3 | 109.0 | 110.6 | 106.9 | 150.6 |
| 5000 | 105.6 | 106.7 | 106.2 | 106.7 | 106.7 | 107.4 | 107.0 | 107.5 | 110.3 | 109.1 | 107.7 | 109.5 | 150.2 |
| 6300 | 104.5 | 106.5 | 105.9 | 106.1 | 106.6 | 107.3 | 107.0 | 107.5 | 110.3 | 109.1 | 107.7 | 109.5 | 150.2 |
| 8000 | 102.8 | 104.7 | 105.0 | 105.6 | 105.4 | 107.2 | 106.3 | 106.7 | 108.7 | 108.5 | 106.4 | 108.3 | 149.6 |
| 10000 | 101.8 | 103.2 | 104.0 | 105.0 | 105.4 | 105.7 | 105.4 | 105.7 | 107.6 | 107.2 | 105.9 | 106.4 | 149.3 |
| 12500 | 100.0 | 101.4 | 102.7 | 103.0 | 103.5 | 104.5 | 104.2 | 105.4 | 105.0 | 104.6 | 103.3 | 101.6 | 148.5 |
| 16000 | 97.1 | 100.1 | 100.4 | 100.5 | 101.3 | 103.3 | 102.7 | 103.5 | 103.8 | 102.8 | 101.2 | 103.6 | 147.9 |
| 20000 | 94.9 | 97.7 | 97.6 | 99.2 | 99.0 | 101.3 | 100.9 | 100.7 | 101.2 | 100.5 | 99.3 | 103.5 | 147.6 |
| 25000 | 91.5 | 96.0 | 96.4 | 97.0 | 96.9 | 99.1 | 97.3 | 98.8 | 97.0 | 96.3 | 97.6 | 93.4 | 147.3 |
| 31500 | 86.8 | 94.2 | 90.7 | 94.4 | 92.5 | 96.6 | 95.7 | 94.4 | 95.9 | 94.2 | 93.9 | 90.3 | 147.4 |
| 40000 | 83.0 | 93.8 | 88.4 | 93.2 | 90.4 | 95.3 | 92.4 | 91.7 | 94.2 | 90.0 | 92.8 | 91.8 | 149.4 |
| 50000 | 79.8 | 95.7 | 84.9 | 94.9 | 98.3 | 96.2 | 86.3 | 84.5 | 94.9 | 85.6 | 92.9 | 88.7 | 160.0 |
| 63000 | 75.0 | 98.1 | 82.9 | 98.3 | 83.8 | 96.2 | 86.3 | 84.5 | 94.9 | 85.6 | 92.9 | 88.7 | 160.0 |
| 80000 | 71.8 | 100.7 | 82.5 | 100.2 | 81.9 | 97.8 | 83.9 | 81.2 | 97.3 | 81.5 | 93.9 | 85.3 | 87.9 |
| DBA | 192.9 | 220.9 | 203.1 | 220.5 | 202.7 | 218.1 | 204.8 | 202.3 | 217.6 | 202.7 | 214.2 | 206.3 | 208.4 |
| PWL | 131.1 | 131.2 | 130.9 | 131.2 | 131.3 | 132.2 | 131.9 | 131.7 | 132.9 | 134.3 | 137.1 | 139.7 | 138.0 |
| PNLT | 131.1 | 131.9 | 132.0 | 131.2 | 132.5 | 132.8 | 131.9 | 131.7 | 132.9 | 134.3 | 137.1 | 139.7 | 138.0 |
| DBA | 192.9 | 220.9 | 203.1 | 220.5 | 202.7 | 218.1 | 204.8 | 202.3 | 217.6 | 202.7 | 214.2 | 206.3 | 208.4 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CNT, CONV, ANN, PLUG NOZ, SC-3/NAS3-22514

VEHICL = ADH102 TEST DATE = 09-01-81
IAPLHA = SB59 LEGA / = NO
WIND DIR = DEG WIND VEL = MPH
LOCAL = C41 ANECH CH CNF10 = 3
TAMB F = 82.00
EXT CNF10 = ARC
MIKE HT =
PAMB HG = 29.40
RELHUM = 65.5 PCT
FLTVEL = 0. FPS
NBFR =

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CORR FAN SPEED = 863
CORR FAN SPEED = 863

FNINI =
FNRAMB =
LBS XNLR =
RPM XNHR =
RPM V8 =
FPS AE18 =
= 25.3 SO IN
= 0. SO IN
RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-1323 X13231

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

50 67.1 71.4 72.5 72.7 73.5 77.0 78.5 80.2 83.9 89.0 92.1 94.1 90.4 168.5

60 67.7 72.5 72.3 73.8 75.1 77.3 79.6 80.8 84.3 89.8 93.7 94.9 91.2 169.6

80 69.7 72.6 73.2 74.9 75.9 77.9 79.4 81.2 83.2 89.9 94.5 95.2 91.5 170.0

100 74.0 73.6 75.8 77.0 78.0 79.3 80.0 81.8 84.9 90.2 94.8 95.5 90.4 170.2

125 83.4 83.6 83.7 83.9 82.5 83.0 83.0 82.9 85.8 89.7 94.2 95.3 91.7 170.7

160 89.8 90.2 87.6 86.3 84.9 84.6 84.1 83.3 86.0 89.3 93.0 94.6 89.7 170.8

200 91.3 90.8 92.7 92.5 89.7 86.0 85.1 86.4 89.2 91.9 93.1 88.0 171.3

250 87.4 90.0 90.8 92.3 93.5 92.3 86.3 84.3 86.1 89.8 91.3 84.8 170.9

315 85.4 87.8 87.5 89.4 90.2 92.7 91.6 86.4 86.6 88.9 88.2 89.1 169.9

400 84.3 86.2 87.5 88.6 88.0 90.2 90.9 89.1 87.4 87.5 86.9 78.9 169.3

500 82.8 84.8 85.9 87.8 88.2 87.9 89.5 88.2 86.5 85.3 84.5 76.0 168.4

630 80.7 83.6 84.8 86.2 86.6 87.5 87.2 88.3 89.7 86.4 84.1 82.5 168.1

800 79.1 83.2 84.1 85.3 86.3 87.2 86.7 86.7 88.5 85.9 82.2 80.7 167.6

1000 77.0 81.2 83.0 84.6 85.9 86.9 85.7 86.7 85.0 80.5 78.8 69.3 167.1

1250 75.4 79.4 81.8 83.9 84.5 86.4 84.8 84.6 85.3 79.6 76.1 67.1 166.7

1600 72.8 76.9 80.0 81.5 82.7 84.9 83.6 82.7 80.5 77.3 73.6 62.1 165.9

2000 68.9 75.1 77.3 78.7 80.3 82.5 81.7 80.7 77.8 73.0 67.4 57.4 165.3

2500 64.9 71.4 73.7 76.8 77.4 80.0 79.3 78.3 74.2 69.3 67.4 50.2 165.0

3150 58.2 67.2 68.9 72.4 74.1 77.3 76.2 73.3 73.0 68.3 63.0 56.5 164.7

4000 47.2 60.7 61.1 67.2 66.6 71.1 69.8 67.2 66.3 60.8 54.3 45.0 164.8

5000 33.6 52.8 53.6 59.6 59.1 64.9 61.5 59.1 58.4 49.0 43.4 28.1 166.8

6300 12.6 40.4 37.0 45.1 45.1 54.9 47.7 44.2 45.3 32.5 24.4 2.5 170.5

8000 12.6 40.4 37.0 45.1 45.1 54.9 47.7 44.2 45.3 32.5 24.4 2.5 170.5

10000 12.6 40.4 37.0 45.1 45.1 54.9 47.7 44.2 45.3 32.5 24.4 2.5 170.5

12500 12.6 40.4 37.0 45.1 45.1 54.9 47.7 44.2 45.3 32.5 24.4 2.5 170.5

15000 12.6 40.4 37.0 45.1 45.1 54.9 47.7 44.2 45.3 32.5 24.4 2.5 170.5

17500 12.6 40.4 37.0 45.1 45.1 54.9 47.7 44.2 45.3 32.5 24.4 2.5 170.5

20000 12.6 40.4 37.0 45.1 45.1 54.9 47.7 44.2 45.3 32.5 24.4 2.5 170.5

22500 12.6 40.4 37.0 45.1 45.1 54.9 47.7 44.2 45.3 32.5 24.4 2.5 170.5

25000 12.6 40.4 37.0 45.1 45.1 54.9 47.7 44.2 45.3 32.5 24.4 2.5 170.5

27500 12.6 40.4 37.0 45.1 45.1 54.9 47.7 44.2 45.3 32.5 24.4 2.5 170.5

30000 12.6 40.4 37.0 45.1 45.1 54.9 47.7 44.2 45.3 32.5 24.4 2.5 170.5

32500 12.6 40.4 37.0 45.1 45.1 54.9 47.7 44.2 45.3 32.5 24.4 2.5 170.5

35000 12.6 40.4 37.0 45.1 45.1 54.9 47.7 44.2 45.3 32.5 24.4 2.5 170.5

37500 12.6 40.4 37.0 45.1 45.1 54.9 47.7 44.2 45.3 32.5 24.4 2.5 170.5

40000 12.6 40.4 37.0 45.1 45.1 54.9 47.7 44.2 45.3 32.5 24.4 2.5 170.5

42500 12.6 40.4 37.0 45.1 45.1 54.9 47.7 44.2 45.3 32.5 24.4 2.5 170.5

45000 12.6 40.4 37.0 45.1 45.1 54.9 47.7 44.2 45.3 32.5 24.4 2.5 170.5

47500 12.6 40.4 37.0 45.1 45.1 54.9 47.7 44.2 45.3 32.5 24.4 2.5 170.5

50000 12.6 40.4 37.0 45.1 45.1 54.9 47.7 44.2 45.3 32.5 24.4 2.5 170.5

52500 12.6 40.4 37.0 45.1 45.1 54.9 47.7 44.2 45.3 32.5 24.4 2.5 170.5

55000 12.6 40.4 37.0 45.1 45.1 54.9 47.7 44.2 45.3 32.5 24.4 2.5 170.5

57500 12.6 40.4 37.0 45.1 45.1 54.9 47.7 44.2 45.3 32.5 24.4 2.5 170.5

60000 12.6 40.4 37.0 45.1 45.1 54.9 47.7 44.2 45.3 32.5 24.4 2.5 170.5

62500 12.6 40.4 37.0 45.1 45.1 54.9 47.7 44.2 45.3 32.5 24.4 2.5 170.5

65000 12.6 40.4 37.0 45.1 45.1 54.9 47.7 44.2 45.3 32.5 24.4 2.5 170.5

67500 12.6 40.4 37.0 45.1 45.1 54.9 47.7 44.2 45.3 32.5 24.4 2.5 170.5

70000 12.6 40.4 37.0 45.1 45.1 54.9 47.7 44.2 45.3 32.5 24.4 2.5 170.5

72500 12.6 40.4 37.0 45.1 45.1 54.9 47.7 44.2 45.3 32.5 24.4 2.5 170.5

75000 12.6 40.4 37.0 45.1 45.1 54.9 47.7 44.2 45.3 32.5 24.4 2.5 170.5

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-1324 X1324F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

FREQ

50

63

80

100

125

150

200

250

315

400

500

630

800

1000

1250

1600

2000

2500

3150

4000

5000

6300

8000

10000

12500

16000

20000

25000

31500

40000

50000

63000

80000

100000

125000

160000

200000

250000

315000

400000

500000

630000

800000

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| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| QASPL | 122.1 | 121.7 | 120.4 | 121.1 | 120.4 | 118.3 | 116.0 | 114.8 | 116.3 | 119.9 | 121.9 | 121.8 | 120.8 | 167.9 |
| PWL | 133.1 | 133.4 | 133.0 | 133.8 | 132.2 | 129.6 | 128.7 | 127.4 | 131.1 | 131.9 | 131.8 | 131.2 | 131.4 | |
| PWLT | 136.1 | 134.5 | 135.2 | 136.8 | 132.2 | 128.7 | 126.7 | 127.4 | 131.1 | 131.9 | 131.8 | 131.2 | 131.4 | |
| DBA | 193.3 | 213.1 | 198.6 | 216.8 | 208.5 | 219.0 | 201.8 | 194.4 | 209.9 | 193.4 | 207.6 | 191.0 | 202.1 | |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CONT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH103 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIG = 3 TAMB F = 82.00 PAMB HG = 29.40 FLTVEL = 400. FPS
IAPLHA = SB59 DEG WIND VEL = NO MPH EXT DIST = 40.0 FT PWL AREA = FULL SPHERE EXT CONFIG = ARC MIKE HT = 25.3 SO IN
FNINI = LBS XNL RPM XNHR = RPM V8 = 1767.0 FPS AE8 = 0. SO IN
FNRAMB = LBS XNLR = RPM V18 = 1767.0 FPS AE18 = 0. SO IN
RUNPT = 81F-400-1324 TAPE = X1324F TEST PT NO = 1324 NC = 863 CORR FAN SPEED = RPM

DATPROC - FLTKAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-1324 X13241

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL 69.5 72.5 72.4 72.9 72.3 74.2 74.4 75.0 80.1 84.7 88.8 87.5 82.6 163.0

63 71.2 72.8 73.2 73.4 73.7 74.7 75.6 76.5 80.5 86.1 90.6 88.7 82.7 164.3

80 71.3 74.1 73.8 74.5 76.3 78.1 76.0 76.3 84.2 86.9 91.2 89.4 82.2 165.1

100 75.2 77.1 77.7 77.3 83.5 86.0 79.9 78.6 83.1 87.1 90.9 88.0 82.2 165.2

125 86.5 86.5 86.4 85.2 78.7 78.6 77.9 77.7 83.1 86.0 88.8 85.4 79.9 165.1

160 94.7 92.5 82.5 89.1 83.2 78.7 78.6 84.6 87.2 89.2 84.4 79.4 168.9

200 90.7 93.9 92.3 91.5 99.5 93.8 86.0 81.6 85.1 88.6 87.5 83.7 79.9 171.8

250 91.9 94.3 96.4 99.2 89.5 92.1 89.6 84.0 86.0 87.7 85.2 81.0 77.5 172.5

315 86.9 88.2 87.4 87.7 84.8 86.8 86.6 86.9 87.6 86.1 84.3 79.7 75.8 167.3

400 84.6 86.3 85.6 85.9 84.9 84.9 85.9 88.3 86.3 82.3 79.0 75.5 166.5

500 82.9 85.3 85.9 87.0 85.1 85.8 85.1 85.3 88.0 85.4 81.0 77.0 73.2 166.4

630 81.9 83.8 84.9 85.0 85.0 84.8 83.8 83.5 86.9 84.9 80.2 76.5 71.5 165.8

800 80.6 83.5 84.6 85.2 85.2 84.7 83.1 82.6 85.5 84.5 78.4 70.6 165.8

1000 80.2 83.4 83.7 84.6 83.7 84.7 83.3 81.5 84.7 83.4 79.0 75.3 70.1 165.9

1250 78.7 82.6 83.4 84.2 84.5 84.9 82.1 81.1 82.6 82.2 77.9 74.4 67.7 166.0

1600 77.4 81.1 82.1 83.8 82.7 83.6 80.9 79.5 81.6 80.8 75.1 72.9 64.9 166.0

2000 74.4 78.4 80.1 81.2 80.4 79.8 78.9 79.5 79.1 71.9 67.1 63.3 49.4 164.5

2500 69.5 75.0 76.5 77.9 77.5 79.5 78.0 75.6 74.1 72.6 67.1 63.3 49.4 164.5

3150 63.6 69.3 72.0 74.7 73.9 77.3 74.4 70.8 69.2 66.8 60.6 54.3 37.3 164.5

4000 55.8 64.1 65.7 69.5 67.9 72.3 67.4 64.4 63.4 54.6 39.3 18.1 165.1

5000 40.0 51.9 53.9 62.0 60.1 66.9 58.2 54.3 56.0 43.5 40.2 20.9

6300 16.9 35.4 37.9 51.3 47.0 58.2 43.9 38.2 46.1 26.3 24.2

8000 11.0 11.6 32.1 28.3 40.7 23.1 15.0 27.4

10000 10000 14.2

12500 10000 14.2

16000 10000 14.2

20000 10000 14.2

25000 10000 14.2

31500 10000 14.2

40000 10000 14.2

50000 10000 14.2

63000 10000 14.2

80000 10000 14.2

OASPL 98.9 100.0 99.9 101.3 101.3 98.9 96.4 94.5 97.3 98.0 99.0 96.2 90.7 185.3

PNLT 102.5 105.1 106.1 107.9 107.3 105.7 103.3 101.5 103.6 103.0 100.8 97.4 91.8

DBA 91.0 93.4 94.1 95.4 94.5 94.2 92.5 91.2 93.5 92.4 88.4 85.0 79.9

MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/CONT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH103 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = 3

IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 82.00 PAMB HG = 29.40 MIKE HT = SL

WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIG = SL NBFR =

FNIN1 = LBS XNL RPM XNHR = V8 RPM V8 = 1767.0 FPS AE8 = 25.3 SQ IN

FNRAMB = LBS XNL RPM XNHR = V8 RPM V8 = 1767.0 FPS AE8 = 25.3 SQ IN

RUNPT = 400-1324 TAPE = X13241 TEST PT NO = 1327 NC = 863 CORR FAN SPEED = RPM

ORIGINAL PAGE 12
OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-4303 X4303C
BACKGROUND 81F-400-0300

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 85.2 83.7 81.7 81.0 81.9 83.2 85.4 86.8 89.2 86.6 89.7 94.1 95.0 130.2
60 87.5 87.8 87.8 89.7 91.3 91.3 91.4 91.3 94.6 89.4 99.2 98.7 99.8 135.4
80 90.5 95.1 90.3 90.6 92.0 94.3 94.5 94.3 95.3 94.4 97.0 99.7 100.9 137.0
100 90.1 96.3 91.9 93.9 94.2 95.1 97.0 97.7 96.5 96.2 100.1 103.8 104.7 139.8
125 86.6 89.6 90.7 92.7 93.5 96.2 96.8 96.7 97.3 101.0 106.6 108.3 108.7 142.8
160 86.5 86.3 89.3 90.1 89.7 91.8 94.0 95.6 97.6 102.6 107.3 109.2 111.4 143.8
200 87.8 87.1 88.3 89.9 91.2 94.6 95.0 96.9 102.3 104.1 108.0 112.0 113.6 145.9
250 87.5 91.3 91.3 93.4 93.0 94.6 97.5 98.5 100.4 104.6 110.9 114.3 116.2 150.0
315 87.6 91.4 90.6 91.7 93.5 96.9 98.5 101.2 106.3 112.4 115.1 117.0 115.9 150.9
400 86.8 91.6 92.1 92.9 93.5 97.1 99.0 102.9 109.4 116.4 118.1 118.5 115.7 153.2
500 89.2 92.5 93.0 93.8 94.9 97.5 99.9 103.3 109.2 117.3 119.2 118.6 115.5 153.9
630 90.8 94.7 93.9 94.7 96.0 98.4 100.7 104.9 110.4 119.2 121.3 119.0 116.9 155.4
800 94.5 94.5 95.3 96.0 97.1 99.5 100.9 105.0 111.1 119.8 121.2 119.1 115.8 155.6
1000 99.2 99.8 98.5 98.6 98.7 100.5 102.4 105.8 112.1 119.1 121.2 118.9 115.1 155.4
1250 97.0 102.8 101.3 101.6 101.7 102.1 104.8 107.0 112.5 118.9 120.8 117.4 113.7 155.0
1600 97.5 98.3 99.3 100.1 100.2 102.1 104.8 107.0 112.4 118.3 120.6 116.0 111.5 154.5
2000 99.4 100.1 99.0 98.9 99.5 102.3 103.2 107.6 112.3 118.4 119.1 109.1 153.5
2500 99.9 100.0 99.7 100.8 100.1 102.2 104.5 107.0 111.7 117.8 116.7 112.7 108.8 152.7
3150 99.0 100.6 99.8 100.6 99.8 101.4 103.0 103.9 107.6 111.7 116.1 112.2 107.0 151.9
4000 98.0 99.7 99.7 100.8 100.9 103.3 104.5 104.5 108.3 111.3 114.7 114.2 110.9 150.9
5000 96.9 99.2 99.0 100.2 100.9 103.4 104.5 104.5 108.1 111.1 114.0 113.5 110.8 150.7
6300 96.8 99.7 99.1 100.1 101.3 103.3 104.5 107.7 110.2 112.8 112.0 110.0 104.6 150.0
8000 96.1 99.5 99.6 100.1 102.4 104.3 107.0 109.2 112.0 110.9 108.5 103.3 149.5
10000 95.8 98.7 99.5 100.8 103.0 103.1 106.5 108.3 110.2 107.4 103.1 149.1
12500 94.5 97.4 98.7 99.2 100.3 101.5 102.0 104.2 107.1 109.0 108.6 105.3 148.5
16000 91.8 96.1 97.2 98.3 98.8 100.4 103.2 104.5 106.1 106.0 103.1 98.9 147.6
20000 89.6 95.5 96.3 98.0 98.4 100.2 102.4 103.5 103.1 101.0 96.5 147.0
25000 85.5 90.2 91.7 92.4 94.0 96.4 96.5 99.8 100.8 100.6 99.1 91.7 146.7
31500 81.3 86.9 87.2 88.4 90.0 93.1 93.7 98.4 98.7 98.4 94.7 87.3 147.0
40000 77.2 82.5 84.4 84.7 86.6 89.5 89.9 91.0 94.4 96.2 96.5 91.8 148.3
50000 73.0 78.1 79.8 81.1 82.8 86.1 86.6 87.1 92.3 95.0 90.0 78.7 150.7
63000 67.4 75.7 76.8 78.9 80.7 82.6 83.6 84.5 91.0 95.4 94.7 87.5 155.1
80000 63.5 74.8 74.2 75.9 76.8 78.5 80.8 81.1 90.2 93.5 93.8 85.2 160.3

QASPL 109.4 111.6 111.3 112.0 112.6 114.6 115.9 119.0 123.3 129.2 130.5 128.6 125.9 167.3
PNLT 122.3 124.2 123.7 124.6 125.2 127.2 128.6 131.9 135.8 140.9 141.3 138.5 135.1
DBA 109.2 111.1 110.7 111.4 111.7 113.7 115.3 118.6 123.0 128.8 129.9 127.1 123.6

NASA SHOCK CELL/COUNT, CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICLE = ADH086 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = 3
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 80.00 MIKE HT = 29.50 RELHUM = 68.3 PCT
WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC NBFR = 0. FPS

FNINI = LBS XNLR = RPM XNHR = RPM V8 = 2349.4 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2349.4 FPS AE8 = 25.3 SQ IN

RUNPT = 81F-ZER-4303 TAPE = X4303C TEST PT NO = 4303 NC = 863 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

IDENTIFICATION - B1F-ZER-4303 X43031

ANGLES MEASURED FROM INLET, DEGREES

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ORIGINAL PAGE IS
OF POOR QUALITY

MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/CONT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

[illegible]

PRINT - A1E-ZEB-4303 TAPE = X43031 TEST PT NO = 4303 NC = 863 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-4313 X4313C
BACKGROUND 81F-400-0300

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 85.2 84.7 82.7 82.0 82.1 85.2 85.9 88.3 90.4 94.1 94.2 93.9 95.0 131.6

63 88.5 88.5 88.3 88.8 90.4 93.3 92.4 93.3 93.8 99.6 99.6 99.5 99.6 136.9

80 91.0 96.1 91.3 91.4 92.0 95.3 94.5 96.1 96.3 95.4 97.8 99.7 101.4 137.6

100 90.8 97.3 93.1 94.4 95.0 96.1 97.5 98.7 97.5 99.2 100.6 104.3 105.9 140.6

125 87.1 89.9 90.9 92.7 94.0 96.9 97.0 96.9 97.3 101.0 106.6 108.3 109.2 143.0

160 86.8 87.1 89.6 90.1 90.5 92.1 94.5 96.1 98.3 103.1 107.3 109.7 111.9 144.2

200 86.3 87.8 89.3 90.6 92.5 95.3 96.0 98.4 102.5 105.1 108.6 112.7 114.4 146.6

250 88.5 91.8 92.1 94.1 94.2 95.6 98.5 101.1 105.8 111.6 115.0 117.2 116.4 150.9

315 88.8 91.6 91.1 92.7 94.0 97.9 100.0 102.7 107.5 113.7 115.8 117.8 116.4 151.8

400 90.8 92.4 93.4 94.2 95.0 98.4 101.5 105.7 111.9 117.9 119.3 119.3 116.4 154.5

500 90.2 93.5 93.8 94.8 96.1 98.5 100.9 104.8 110.2 118.1 120.0 119.4 116.3 154.7

630 92.6 94.8 94.6 95.4 97.0 98.9 101.7 105.9 111.2 120.2 121.8 120.0 117.7 156.2

800 96.2 95.5 95.8 97.9 99.8 102.4 103.4 105.8 112.9 120.8 121.7 119.9 116.3 156.4

1000 100.2 100.8 99.3 99.2 101.0 103.4 106.6 113.6 120.9 121.5 118.9 115.8 115.3 156.3

1250 99.5 103.8 102.1 102.3 102.4 102.5 104.4 107.6 113.7 120.4 121.8 118.7 114.2 156.2

1600 103.5 101.6 101.6 101.6 101.0 102.8 105.8 108.7 113.9 120.0 120.9 116.7 112.2 155.5

2000 105.7 105.1 103.5 101.9 101.2 103.3 104.7 108.6 114.3 120.4 118.8 114.9 110.1 155.0

2500 103.9 105.0 104.5 105.0 103.3 104.0 105.5 108.5 113.0 119.6 116.9 113.5 108.8 154.0

3150 102.5 104.3 103.3 103.9 104.2 106.0 105.9 108.9 112.7 117.9 117.0 111.9 107.3 153.3

4000 101.2 103.0 103.5 103.6 103.9 106.6 107.0 109.5 112.6 116.9 114.4 110.9 106.9 152.5

5000 99.9 102.2 101.2 102.7 103.4 105.4 106.8 109.3 112.6 115.5 113.8 109.6 106.2 151.8

6300 99.8 102.7 101.4 102.6 103.8 105.5 106.5 109.5 111.5 114.3 113.2 109.7 105.3 151.4

8000 98.1 101.7 102.2 102.4 102.6 104.7 106.3 109.0 110.7 113.5 111.4 107.8 104.6 150.9

10000 98.1 100.7 101.5 102.8 103.8 104.8 105.6 109.0 110.1 112.2 110.7 106.9 104.3 150.8

12500 96.8 99.7 100.9 101.2 102.3 103.8 103.7 106.0 108.4 110.5 108.8 106.0 101.3 149.9

16000 93.8 98.1 98.9 99.5 100.3 101.8 102.2 105.0 106.0 108.3 105.7 103.4 99.9 149.1

20000 96.2 98.0 98.0 98.0 100.0 100.4 102.2 103.9 106.2 103.6 101.5 96.7 148.7

25000 87.8 92.5 93.5 94.1 95.5 98.4 98.4 98.3 101.1 103.0 100.2 97.9 148.3

31500 82.8 88.9 89.7 90.7 92.0 95.4 95.0 95.6 98.4 100.2 97.9 94.5 148.3

40000 79.2 85.3 86.7 87.2 89.1 93.3 91.9 93.0 96.7 97.0 96.5 91.8 149.8

50000 75.2 81.6 82.8 83.1 84.8 88.9 86.9 87.0 94.2 95.9 93.9 87.0 152.3

63000 68.9 80.4 80.3 85.6 82.9 83.1 86.9 87.0 94.2 95.9 93.9 87.0 157.1

80000 64.5 83.1 78.7 87.1 80.3 82.7 84.6 84.1 93.9 94.8 92.5 85.9 163.0

QASPL 112.8 114.3 113.8 114.5 116.4 117.6 120.5 124.7 130.7 131.1 129.2 126.6 168.9

PMLT 125.7 127.2 126.6 127.1 127.4 129.4 130.5 133.3 137.0 142.5 142.0 139.0 135.6

DBA 113.1 114.2 113.5 113.9 115.6 116.9 120.0 124.4 130.4 130.5 127.7 124.2

NASA SHOCK CELL/COUNT. CONV. ANN. PLUG NO2. SC-3/NAS3-22514

VEHICL = ADH087 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFID = 3 MODEL = 3
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 MIKE HT = 29.50 RELHUM = 68.3 PCT
WIND DIR = SB59 DEG WIND VEL = NO MPH EXT DIST = 40.0 FT EXT CONFID = ARC

FNINI = LBS XNL RPM XNHR RPM V8 = 2422.8 FPS AEB = 25.3 SQ IN
FNRAMB = LBS XNLR RPM XNHR RPM V18 = 2422.8 FPS AE18 = 0. SQ IN

RUNPT = 81F-ZER-4313 TAPE = X4313C TEST PT NO = 4313 NC = 863 CORR FAN SPEED = RPM

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OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-4313 X4313F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| FREQ | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 | 200 | 210 | 220 | 230 | 240 | 250 | 260 | 270 | 280 | 290 | 300 | 315 | 330 | 350 | 370 | 390 | 400 | 450 | 500 | 550 | 600 | 630 | 800 | 1000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 85.2 | 84.7 | 82.7 | 82.0 | 82.1 | 85.2 | 85.9 | 88.3 | 90.4 | 92.4 | 93.3 | 93.8 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 9 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH087 TEST DATE = 09-01-81
IAPLHA = SB59 IEGA = NO
WIND DIR = DEG WIND VEL = MPH
LOCAL = C41 ANECH CH CONFIO = 3
TAMB F = FULL SPHERE
EXT DIST = 40.0 FT
EXT CONFIO = ARC
MIKE HT = 29.50
PAMB HG = 29.50
RELHUM = 68.3 PCT
FLTVEL = 0. FPS
MODEL = 3
CONFIO = 3
TAMB F = 80.00
EXT CONFIO = ARC
MIKE HT = 29.50
PAMB HG = 29.50
RELHUM = 68.3 PCT
FLTVEL = 0. FPS

FNINI = LBS XNL RPM XNHR RPM V8 = 2422.8 FPS AEB = 25.3 SO IN
FNRAMB = LBS XNL RPM XNHR RPM V8 = 2422.8 FPS AEB = 25.3 SO IN
CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - B1F-ZER-4313 X43131

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 66.8 71.9 74.0 75.5 76.7 80.2 83.2 87.0 92.4 97.5 97.3 95.1 88.9 171.9

63 68.2 73.0 74.3 76.1 77.8 80.3 82.6 86.1 90.8 97.6 97.9 95.1 88.7 172.1

80 70.5 74.3 75.2 76.7 78.7 80.7 83.4 87.2 91.7 99.6 99.7 95.7 89.9 173.7

100 74.0 74.6 76.0 78.0 79.5 81.5 84.0 87.0 93.3 100.2 99.5 95.5 88.4 173.8

125 77.9 80.1 79.7 80.4 80.7 82.7 85.0 87.7 94.0 100.2 99.2 94.3 87.7 173.7

160 77.0 82.9 82.3 83.3 83.9 84.1 85.9 88.6 94.0 99.5 99.3 93.9 85.7 173.6

200 80.8 80.5 81.7 82.5 82.2 84.2 87.1 89.6 93.9 98.9 98.2 91.6 83.3 173.0

250 82.6 83.7 83.3 82.5 82.3 84.5 85.8 89.3 94.1 99.1 95.7 89.3 80.6 172.4

315 80.4 83.3 84.0 85.4 84.2 84.9 86.4 88.9 92.5 97.9 93.5 87.4 78.4 171.4

400 78.5 82.2 82.5 83.9 84.7 86.7 88.4 88.9 91.9 95.8 93.0 85.2 75.9 170.7

500 76.8 80.5 81.9 83.3 84.1 87.0 87.2 89.3 91.4 94.5 90.0 83.5 74.5 169.9

630 74.9 79.3 79.8 82.2 83.4 85.5 86.7 88.8 91.2 92.7 88.8 81.5 72.7 169.2

800 74.3 79.5 79.6 81.8 83.5 85.4 86.2 88.7 89.7 91.1 87.7 80.9 70.7 168.9

1000 72.2 78.2 80.2 81.4 82.2 84.4 85.9 88.0 88.7 90.0 88.7 85.5 78.3 168.3

1250 71.7 76.9 79.3 81.6 82.7 84.4 85.1 87.8 88.3 88.3 84.3 76.6 67.1 168.2

1600 69.5 75.2 78.3 79.7 81.4 83.1 82.9 84.5 85.7 86.0 81.6 74.4 61.8 167.3

2000 65.6 73.1 75.8 77.7 79.3 81.0 81.2 83.2 83.0 83.3 77.5 70.1 57.4 166.6

2500 61.6 68.9 72.2 75.5 76.4 78.7 78.8 79.8 80.0 79.9 73.5 65.4 49.3 166.2

3150 54.4 63.7 67.7 70.2 72.6 75.8 75.4 74.3 75.3 74.3 66.7 57.3 35.3 165.5

4000 43.2 55.5 60.1 63.5 66.1 69.9 69.1 68.4 68.8 66.8 58.3 44.5 16.7 165.7

5000 29.9 44.3 50.8 54.5 58.2 62.9 61.0 60.3 60.9 56.0 47.1 28.1 169.7

6300 8.0 26.4 34.9 41.6 43.8 45.8 47.9 45.6 46.4 40.9 27.6 1.7 174.5

8000 0.4 11.0 22.9 23.8 23.8 25.1 27.7 24.3 25.0 15.9 174.5

10000 0.4 11.0 22.9 23.8 23.8 25.1 27.7 24.3 25.0 15.9 174.5

12500 0.4 11.0 22.9 23.8 23.8 25.1 27.7 24.3 25.0 15.9 174.5

16000 0.4 11.0 22.9 23.8 23.8 25.1 27.7 24.3 25.0 15.9 174.5

20000 0.4 11.0 22.9 23.8 23.8 25.1 27.7 24.3 25.0 15.9 174.5

25000 0.4 11.0 22.9 23.8 23.8 25.1 27.7 24.3 25.0 15.9 174.5

31500 0.4 11.0 22.9 23.8 23.8 25.1 27.7 24.3 25.0 15.9 174.5

40000 0.4 11.0 22.9 23.8 23.8 25.1 27.7 24.3 25.0 15.9 174.5

50000 0.4 11.0 22.9 23.8 23.8 25.1 27.7 24.3 25.0 15.9 174.5

63000 0.4 11.0 22.9 23.8 23.8 25.1 27.7 24.3 25.0 15.9 174.5

80000 0.4 11.0 22.9 23.8 23.8 25.1 27.7 24.3 25.0 15.9 174.5

DBA 83.1 87.3 88.7 90.4 91.5 93.5 94.1 96.3 98.0 100.6 97.3 90.8 82.1

PMLT 94.0 98.3 99.2 100.9 102.2 104.3 104.8 106.9 109.1 113.3 110.1 105.1 95.7

PNL 94.0 97.6 99.2 100.9 102.2 104.3 104.8 106.9 109.1 112.8 110.1 103.9 95.7

OSAPL 89.0 92.0 92.6 93.9 94.6 96.5 97.7 100.3 104.1 109.3 108.1 103.5 96.7 186.1

VEHICLE = ADH087 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = 3
IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.50
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIG = SL MIKE HT = 0. FPS
FINI = LBS XNL RPM = XNH XNHR = RPM V8 = 2422.8 FPS AEG = 25.3 SQ IN
FNAMB = LBS XNLR RPM = XNH XNHR = RPM V8 = 2422.8 FPS AEG = 25.3 SQ IN
CORR FAN SPEED = RPM = 863 NC = 863

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514
MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

ORIGINAL PAGE 18
OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-4321 X4321C
BACKGROUND 81F-400-0300

ANGLES MEASURED FROM INLET, DEGREES

PWL
160. 150. 140. 130. 120. 110. 100. 90. 80. 70. 60. 50. 40.

FREQ 50 60 70 80 90 100 110 120 130 140 150 160

50 85.9 85.0 83.5 84.0 83.9 85.2 86.1 88.3 90.7 94.1 95.2 94.9 96.8 132.3

63 89.2 89.0 88.5 89.6 91.2 92.8 92.2 92.1 95.1 100.1 99.7 98.8 101.2 102.6 138.7

80 92.0 96.6 91.9 93.7 96.3 96.5 96.1 97.3 96.7 98.8 100.2 99.7 100.8 137.4

100 92.3 98.3 93.6 94.9 96.0 97.1 98.5 99.4 98.8 99.7 101.8 104.8 106.7 141.5

125 88.4 90.6 92.2 94.2 95.3 97.7 97.8 97.9 98.0 101.7 107.6 109.5 113.6 145.6

150 87.5 88.3 90.8 90.9 91.2 93.3 95.5 97.1 99.1 104.4 108.5 111.0 113.6 145.6

160 87.5 88.3 90.8 90.9 91.2 93.3 95.5 97.1 99.1 104.4 108.5 111.0 113.6 145.6

200 89.8 88.3 89.8 90.9 91.2 93.3 95.5 97.1 99.1 104.4 108.5 111.0 113.6 145.6

250 89.0 89.0 92.1 92.6 94.1 94.7 96.1 96.3 97.2 98.9 103.8 106.4 109.8 147.7

315 89.3 89.3 92.1 92.4 93.2 94.5 96.6 96.3 97.1 99.1 104.4 108.5 111.0 145.6

400 91.3 93.4 93.9 94.4 95.3 96.1 98.7 101.4 104.8 110.2 118.6 120.7 119.6 155.2

500 91.7 94.5 94.3 95.0 96.1 97.7 99.6 102.5 106.2 111.7 120.9 122.6 118.4 156.9

630 93.6 95.6 96.2 97.2 97.8 98.8 100.8 102.6 106.8 113.1 121.8 122.7 120.1 157.2

800 97.7 97.2 97.0 97.8 98.8 100.8 102.6 106.8 113.1 121.8 122.7 120.1 157.2

1000 101.0 102.0 100.3 99.8 99.9 102.0 104.4 107.3 113.8 121.9 122.5 119.7 116.1 157.1

1250 101.2 104.8 103.8 102.8 103.2 103.5 104.7 108.3 114.2 121.6 122.5 118.2 114.9 157.0

1500 105.0 103.3 103.8 102.1 102.0 103.8 106.3 109.8 113.9 120.8 121.6 113.0 115.7

2000 104.7 105.6 104.5 103.1 102.0 103.8 106.3 109.8 113.9 120.8 121.6 113.0 115.7

2500 104.4 105.2 104.5 105.0 104.8 104.7 106.8 109.5 113.7 120.3 117.9 113.7 109.8 154.8

3150 104.3 105.3 104.3 105.1 104.9 104.9 107.3 106.6 109.9 114.2 118.9 117.2 108.3 153.3

4000 103.0 104.2 104.7 104.5 106.9 106.6 107.3 110.1 113.4 116.8 114.5 109.3 106.2 152.8

5000 103.1 103.2 103.2 104.5 105.9 106.9 107.3 110.1 113.4 116.8 114.5 109.3 106.2 152.8

6300 100.8 103.7 103.4 103.9 105.6 107.3 108.3 110.5 112.3 115.6 113.2 109.5 105.6 152.4

8000 100.1 103.0 103.5 103.6 103.9 106.7 107.3 107.3 109.5 111.3 113.7 110.9 106.7 151.8

10000 102.1 104.0 104.3 104.3 106.3 106.3 107.0 109.4 111.8 109.8 105.5 101.8 151.0

12500 98.5 100.9 102.2 102.7 103.5 105.3 105.7 107.0 109.4 111.8 109.8 105.5 101.8 151.0

15000 95.8 99.4 100.4 100.7 101.1 103.3 103.7 106.0 107.3 109.1 107.0 103.4 99.9 150.2

16000 95.8 99.4 100.4 100.7 101.1 103.3 103.7 106.0 107.3 109.1 107.0 103.4 99.9 150.2

20000 92.9 96.5 97.6 98.7 99.3 101.3 103.0 104.7 103.0 104.3 103.0 104.3 98.0 149.7

25000 89.5 94.2 94.7 95.6 96.5 99.4 100.1 99.8 101.8 103.5 100.1 98.6 91.2 149.0

31500 85.1 90.9 91.2 92.4 93.0 96.4 96.5 96.9 98.6 101.7 98.7 94.7 87.3 149.4

40000 81.2 87.5 88.7 89.4 90.6 93.8 93.4 94.5 97.2 99.0 96.3 92.1 84.6 150.9

50000 77.7 85.4 86.6 86.6 86.6 89.9 91.3 95.6 99.2 94.5 89.2 81.0 153.7

63000 72.4 86.2 86.5 86.9 87.9 88.8 89.2 95.2 99.2 93.7 86.3 80.0 158.6

80000 68.5 89.6 89.6 89.6 89.6 89.6 89.6 89.6 89.6 89.6 89.6 89.6 89.6 164.9

DBA 114.0 115.2 114.8 114.8 115.1 116.7 117.9 120.8 125.0 131.4 131.4 131.2 128.0 124.9

PWL 126.9 129.0 127.8 128.1 128.3 130.3 131.4 134.1 138.5 143.4 142.5 139.3 136.5

OASPL 113.8 115.3 115.1 115.3 115.7 117.5 118.6 121.3 125.3 131.6 131.6 131.9 129.6 127.5 170.0

NASA SHOCK CELL/COUNT, CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICLE = ADH088 TEST DATE = 09-01-81 LOCAL = C41 ANECH CH CONFIG = 3 MODEL = 3
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.50
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR = 0. FPS
FINI = LBS XNL RPM XNH RPM V8 = 2468.3 FPS AE8 = 25.3 SQ IN AE18 = 0. SQ IN
FNRAMB = LBS XNLR RPM XNHR RPM V18 = 2468.3 FPS AE18 = 0. SQ IN
RUNPT = 81F-ZER-4321 TAPE = X4321C TEST PT NO = 4321 NC = 863 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-4321 X4321F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 85.9 85.0 84.0 83.9 85.2 86.1 88.3 90.7 94.1 95.2 94.9 96.8 132.3
63 89.2 89.0 88.5 89.6 91.2 92.8 92.2 92.1 95.1 100.1 100.2 99.7 100.8 137.4
100 92.0 96.6 91.6 91.9 93.7 96.3 96.5 96.1 97.3 96.7 98.8 101.2 102.6 138.7
125 88.4 90.6 92.2 94.2 95.3 97.7 97.8 97.9 98.0 101.7 107.6 109.5 110.7 141.5
150 87.5 88.3 90.8 90.9 91.2 93.3 95.5 97.1 99.1 104.4 108.5 111.0 113.6 145.6
200 89.8 88.3 89.8 90.9 93.0 96.3 97.2 98.9 103.8 106.4 109.8 113.7 115.4 147.7
250 89.0 92.1 92.6 94.1 94.7 96.1 99.0 101.9 107.1 112.4 116.3 118.0 117.4 151.9
315 89.3 92.1 92.4 93.2 94.5 96.6 100.8 103.4 108.0 114.2 117.1 118.5 117.7 152.7
400 91.3 93.4 93.9 94.4 95.3 99.1 101.5 106.4 112.4 119.2 120.1 120.0 117.4 155.4
500 91.7 94.5 95.0 96.1 98.7 101.4 104.8 110.2 118.6 120.7 119.6 117.0 155.2
630 93.6 95.6 96.2 97.7 99.6 102.5 106.2 111.7 120.9 122.6 120.2 118.4 156.9
800 97.7 97.2 97.0 96.8 98.1 100.8 102.6 106.8 113.1 121.8 122.7 120.1 116.6 157.2
1000 101.0 102.0 100.3 99.8 99.9 102.0 104.4 107.3 113.8 121.9 122.5 119.7 114.1 157.1
1250 101.2 104.8 103.8 102.8 103.5 104.7 108.3 114.2 121.6 122.5 118.2 114.9 157.0
1600 105.0 103.3 102.1 102.0 103.8 106.3 109.2 113.9 120.8 121.6 117.2 113.0 156.2
2000 104.7 105.6 103.1 102.0 103.8 106.0 109.4 114.3 121.4 119.3 115.1 111.6 155.7
2500 104.4 105.2 104.5 105.0 104.8 104.7 106.8 109.5 114.2 118.9 117.2 108.3 154.1
3150 104.3 105.3 104.3 105.1 104.9 107.3 106.6 109.9 114.2 118.9 117.2 108.3 154.1
4000 103.0 104.2 104.7 104.8 104.9 106.6 108.0 110.5 113.3 117.7 115.4 110.7 107.9 153.3
5000 101.1 103.2 103.2 104.5 105.9 106.9 107.3 110.1 113.4 116.8 114.5 109.3 106.2 152.8
6300 100.8 103.7 103.4 103.9 105.6 107.3 108.3 110.5 112.3 115.6 113.2 109.5 105.6 152.4
8000 100.1 103.0 103.5 103.6 103.9 106.7 107.3 110.0 111.7 114.8 111.7 108.3 105.1 151.9
10000 100.1 103.2 104.0 104.3 106.3 107.1 109.5 111.3 113.7 110.9 106.7 104.6 151.8
12500 98.5 100.9 102.7 103.5 105.5 107.7 107.0 109.4 111.8 109.8 105.5 101.8 151.0
16000 95.8 99.4 100.4 100.7 101.1 103.3 103.7 106.0 107.3 109.1 107.0 103.4 99.9 150.2
20000 92.9 96.5 97.6 98.7 99.3 101.3 101.9 103.0 104.7 107.0 105.3 102.0 98.0 149.7
25000 85.5 95.6 94.7 95.6 99.4 100.1 99.8 101.8 103.5 100.1 98.6 91.2 149.0
31500 85.1 90.9 91.2 92.4 93.0 96.4 96.5 96.9 98.6 101.7 98.7 94.7 87.3 149.4
40000 81.2 87.5 88.7 89.4 90.6 93.8 93.4 94.5 97.2 99.0 96.3 92.1 84.6 150.9
50000 77.7 85.4 84.3 86.6 86.6 89.9 89.9 91.3 95.6 99.2 94.5 89.2 81.0 153.7
63000 72.4 86.2 82.5 86.9 86.8 88.8 88.8 89.2 93.7 98.3 80.0 158.6
80000 68.5 89.6 80.2 88.4 84.8 83.0 86.6 86.4 95.4 97.5 94.5 84.4 79.3 164.9

GASPL 113.8 115.3 115.7 117.5 118.6 121.3 125.3 131.6 131.9 129.6 127.5 170.0
PNLT 126.9 128.2 127.8 128.1 130.3 131.4 134.1 138.0 143.4 142.5 139.3 136.5
DBA 189.8 209.8 201.0 208.7 205.4 213.4 207.2 207.2 215.8 218.2 214.9 205.2 199.9

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH088 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIO = 3 MODEL = 3 FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.50 MIKE HT = 29.50 RELHUM = 68.3 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIO = ARC

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-4321 X43211

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.
PWL

63 69.7 74.0 74.8 76.3 77.8 80.6 83.1 86.1 90.8 98.1 98.7 95.4 172.6
80 75.5 76.2 77.4 79.4 84.2 87.4 92.2 100.4 100.5 95.9 90.7 174.3
100 75.5 76.6 77.5 78.0 79.8 82.5 84.3 88.0 93.6 101.2 100.5 95.7 174.6
125 78.7 81.3 80.7 80.9 81.5 83.7 86.0 88.4 94.3 101.2 100.2 95.1 174.6
160 78.8 83.9 84.1 83.8 84.6 85.1 86.1 89.3 94.5 100.8 100.0 93.4 86.5 174.4
200 82.3 82.2 83.9 83.0 83.2 85.2 87.6 90.1 93.9 99.7 98.9 92.1 84.0 173.6
250 81.6 84.2 84.3 83.8 83.0 85.0 87.0 90.0 94.1 100.1 96.2 89.5 82.1 173.1
315 80.9 83.5 84.0 85.4 85.7 87.7 89.6 93.3 98.6 94.5 87.6 79.4 172.2
400 80.3 83.2 83.5 85.1 85.4 87.9 87.1 89.9 93.4 96.8 93.3 85.4 76.9 171.6
500 78.5 81.8 83.6 84.5 85.1 87.0 88.2 90.3 92.2 95.2 91.0 83.2 75.5 170.7
630 76.2 80.3 83.9 85.9 87.0 87.2 89.5 91.9 93.9 89.6 81.2 72.7 170.2
800 75.3 80.5 83.1 85.3 87.2 88.0 89.7 90.5 92.4 87.7 80.7 71.0 169.8
1000 74.2 79.4 81.5 82.6 83.5 86.4 86.9 89.0 89.7 91.2 85.8 78.8 69.3 169.3
1250 73.7 78.4 81.0 82.9 83.7 85.9 86.6 88.3 89.1 89.8 84.6 76.4 67.4 169.3
1600 71.3 76.4 79.5 81.2 82.7 84.6 84.9 85.5 86.7 87.3 82.6 73.9 62.3 168.4
2000 67.6 74.3 77.3 79.0 80.1 82.5 82.7 84.2 84.0 82.6 78.8 70.1 57.4 167.6
2500 62.9 70.2 73.7 76.3 77.7 80.0 80.3 80.5 80.8 80.7 75.3 65.9 50.5 167.2
3150 56.2 65.5 68.9 71.7 73.6 76.8 77.2 75.8 76.0 74.8 66.7 57.5 35.3 166.4
4000 45.5 57.5 61.6 65.2 67.1 70.9 70.6 69.7 69.0 68.3 59.1 44.7 17.0 166.8
5000 31.9 46.5 52.8 56.7 59.7 63.4 62.5 61.8 61.4 58.0 46.9 28.4 171.2
6300 10.5 30.1 36.4 43.1 45.6 48.9 47.9 47.7 43.9 27.3 1.4 182.4

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GASPL 89.9 93.0 94.0 94.8 95.7 97.6 98.7 101.1 104.6 110.2 108.9 103.9 97.4 187.3
PNL 94.7 98.7 100.6 102.1 103.3 105.5 106.1 107.8 109.9 113.8 110.8 104.1 96.2
PNLT 94.7 98.7 100.6 102.1 103.3 105.5 106.1 107.8 109.9 114.4 110.8 105.3 96.2
DBA 84.4 88.4 89.2 90.2 91.7 92.8 94.9 95.4 97.2 98.9 101.7 98.0 90.9 82.8

MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/CONT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH088 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIO = 3 MODEL = 3 FLTVEL = 0. FPS
IAPLHA = SB59 PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.50 RELHUM = 68.3 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIO = SL MIKE HT = NBFRR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 2468.3 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = FPS AE18 = 0. SQ IN

RUNPT = 81F-ZER-4321 TAPE = X43211 TEST PT NO = 4321 NC = 863 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

06/18/82 17.406 PAGE 1

DATPROC - FLTRAN

ANGLES MEASURED FROM INLET, DEGREES

IDENTIFICATION - MODEL 81F-ZER-5301 X5301C
BACKGROUND 81F-400-0300

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 80.7 80.0 79.7 78.0 78.9 80.2 80.1 81.3 84.2 85.8 87.9 92.1 93.0 126.9

63 83.2 83.8 85.8 83.6 85.2 87.3 86.9 86.3 88.3 93.9 90.7 97.4 97.8 132.2

80 85.8 86.1 87.2 89.8 90.2 89.1 91.0 90.9 91.5 94.8 98.0 99.4 132.3

100 87.1 90.8 86.4 88.7 89.6 90.7 92.4 91.3 91.7 94.8 98.0 99.4 134.3

125 84.9 86.6 87.9 89.4 89.8 91.7 91.0 90.9 91.0 93.2 99.9 102.8 137.4

150 84.3 81.3 86.1 85.1 86.2 87.8 88.7 88.9 89.8 94.1 99.3 104.0 138.1

200 82.8 85.1 85.8 86.6 87.7 89.6 90.5 93.1 95.5 96.4 101.0 106.7 140.6

250 83.3 90.1 87.8 88.1 89.2 91.3 94.2 95.1 96.6 100.9 106.8 112.1 144.4

315 85.3 89.1 87.9 90.2 91.3 93.9 95.0 97.2 100.0 104.7 108.6 113.0 146.4

400 86.1 89.6 89.4 89.3 92.6 94.8 96.9 99.9 101.4 106.9 111.1 114.8 147.9

500 86.2 89.7 89.0 90.0 91.1 93.0 95.1 97.5 101.2 106.6 112.0 116.4 149.0

630 88.1 90.3 90.1 91.2 91.7 93.1 94.7 96.9 99.9 107.2 112.8 116.5 149.4

800 91.0 92.0 91.3 92.0 93.1 94.3 95.6 97.8 101.6 107.1 112.5 116.1 149.0

1000 96.2 97.5 97.3 96.8 95.2 96.3 97.9 99.6 102.6 106.9 111.5 114.9 148.4

1250 97.7 99.3 97.1 97.3 97.9 98.5 98.9 99.3 103.0 106.6 110.8 113.7 147.7

1600 105.5 102.3 100.8 98.1 96.0 96.3 99.1 100.2 102.9 106.3 109.4 112.2 147.0

2000 108.2 106.3 105.2 102.9 99.2 97.8 97.5 99.6 102.5 107.2 107.3 108.9 147.1

2500 105.9 106.5 105.2 106.3 104.1 102.2 100.3 100.0 102.5 106.6 106.4 109.0 147.2

3150 104.3 104.6 103.8 104.9 104.4 105.5 102.9 101.1 102.9 105.4 106.5 106.9 146.8

4000 103.0 103.2 102.8 103.0 102.6 104.5 103.3 103.6 104.4 104.7 106.4 104.9 146.1

5000 101.4 102.2 102.0 102.2 101.9 102.4 103.8 104.0 104.0 104.0 104.0 104.0 145.7

6300 101.0 102.7 101.9 101.6 101.8 102.5 101.8 103.7 105.0 104.1 103.4 106.2 145.8

8000 99.3 101.7 102.2 101.9 101.1 102.2 102.0 102.7 104.7 104.5 102.6 104.8 145.8

10000 99.1 101.0 102.3 101.8 101.1 102.0 103.3 104.2 104.2 104.2 104.2 104.2 145.8

12500 97.0 99.6 100.2 100.9 100.7 101.7 100.4 99.9 101.3 102.0 101.3 101.8 145.2

16000 94.5 97.6 98.1 98.4 99.1 100.3 99.2 99.4 100.5 99.0 97.9 99.9 144.8

20000 92.1 95.2 95.3 96.4 97.0 98.7 97.9 96.9 97.9 96.2 96.0 97.9 144.4

25000 88.2 91.9 92.1 93.0 94.4 96.6 96.3 93.7 95.0 93.4 92.5 94.5 143.8

31500 83.0 88.1 88.6 89.6 90.4 93.0 92.9 91.3 91.8 90.3 89.8 91.1 143.8

40000 79.1 83.6 85.3 86.0 87.0 89.6 89.0 88.1 89.3 85.8 86.9 88.4 144.4

50000 75.1 80.0 80.9 82.4 83.2 85.0 85.4 83.0 82.9 80.6 81.6 83.7 147.7

80000 64.3 80.6 75.5 75.5 76.9 79.8 77.9 75.4 80.2 76.6 78.3 80.3 152.0

GNASPL 114.1 114.2 113.5 113.6 112.9 113.5 113.2 113.6 115.5 118.4 121.6 125.0 124.7 161.3

PNLT 126.7 127.2 126.3 126.8 126.1 126.9 126.5 127.9 130.4 132.1 134.7 133.8

DBA 114.7 114.4 113.6 113.5 112.5 112.8 112.4 112.8 114.7 117.6 120.4 123.6 122.9

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH091 TEST DATE = 09-01-81 LOCAL = C41 ANECH CH. CONFIO = 3
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 81.00
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIO = ARC
FNINI = LBS XNL RPM XNH RPM V8 = 1665.7 FPS AEB = 25.3 SO IN
FNRAMB = LBS XNLR RPM XNHR RPM V18 = 1665.7 FPS AE18 = 0. SO IN
RUNPT = ZER-5301 TAPE = X5301C TEST PT NO = 5301 NC = 863 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

DATPROC - FLTRAN

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-5301 X5301F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREO 50 60.7 80.0 79.7 78.0 78.9 80.2 80.1 81.3 84.2 85.8 87.9 92.1 93.0 126.9

50 60.7 80.0 79.7 78.0 78.9 80.2 80.1 81.3 84.2 85.8 87.9 92.1 93.0 126.9

63 63.2 83.8 85.8 83.6 85.2 87.3 86.9 86.3 88.3 93.9 97.4 97.8 132.2

80 65.8 86.1 87.2 89.8 90.2 89.1 91.0 90.9 91.5 94.5 96.1 132.3

100 67.1 90.8 86.4 88.7 89.6 90.7 92.4 91.3 91.7 94.8 98.0 99.4 134.3

125 64.9 86.6 87.9 89.4 89.8 91.7 91.0 90.9 91.0 93.2 99.9 102.8 137.4

150 84.3 81.3 86.1 85.1 86.2 87.7 89.6 90.5 93.1 95.5 96.4 101.0 140.6

200 82.8 85.1 85.8 86.6 87.7 89.6 90.5 93.1 95.5 96.4 101.0 106.7 140.6

250 83.3 90.1 87.8 88.1 89.2 91.3 94.2 95.1 96.6 100.9 106.8 111.2 144.4

315 85.3 89.1 87.9 90.2 91.3 93.9 95.0 97.2 100.0 104.7 108.6 113.9 146.4

400 86.1 89.6 89.4 89.3 92.6 94.8 96.9 97.2 100.0 104.7 108.6 113.9 146.4

500 86.2 89.7 89.0 90.0 91.1 93.0 95.1 97.5 101.2 106.6 112.0 116.4 149.0

630 88.1 90.3 90.1 91.2 91.7 93.1 94.7 96.9 99.9 107.2 112.8 116.5 149.4

800 91.0 90.5 91.3 92.0 93.1 94.3 95.6 97.8 101.6 107.1 112.5 116.1 149.0

1000 96.2 97.5 97.3 96.8 95.2 96.3 97.9 99.6 102.6 106.9 111.5 114.9 148.4

1250 97.7 99.3 97.1 97.3 97.9 98.5 98.9 99.3 103.0 106.6 110.8 113.7 147.7

1500 105.5 102.3 100.8 98.1 96.0 96.3 99.1 100.2 102.9 106.3 109.4 112.2 147.0

2000 108.2 106.3 105.2 102.9 99.2 97.5 99.6 102.5 107.2 107.3 110.1 108.9 147.1

2500 105.9 106.5 105.2 102.6 104.1 102.2 100.3 100.0 102.5 106.6 109.4 107.3 147.2

3150 104.3 104.6 103.8 104.9 104.4 105.5 102.9 101.1 102.9 105.4 106.5 106.9 146.1

4000 103.0 103.2 102.8 103.0 102.4 103.6 103.6 103.4 104.4 104.7 106.4 104.9 146.1

4500 104.3 104.6 103.8 104.9 104.4 105.5 102.9 101.1 102.9 105.4 106.5 106.9 146.1

5000 101.4 102.2 102.0 102.2 101.9 102.4 103.0 103.6 104.4 104.0 105.6 104.2 145.7

6300 101.0 102.7 101.9 101.6 101.8 102.5 101.8 103.7 105.0 104.1 103.4 106.2 145.8

8000 99.3 101.7 102.2 101.9 101.1 102.2 102.0 102.7 104.5 102.6 102.6 102.6 145.8

10000 99.1 101.0 102.3 101.8 102.3 101.4 100.4 99.9 101.3 102.0 101.3 101.8 145.2

12500 97.0 99.6 100.2 100.9 100.7 101.7 100.4 99.4 99.0 100.5 99.0 97.9 144.8

15000 94.5 97.6 98.1 98.4 98.4 98.4 97.9 96.0 96.2 96.0 97.9 95.4 144.4

20000 92.1 95.2 95.3 96.4 97.0 96.7 96.9 96.9 96.9 96.9 96.9 96.9 144.4

25000 88.2 91.9 92.1 93.0 94.4 96.6 96.3 93.7 95.0 93.4 92.5 94.5 144.0

31500 83.0 88.1 88.6 89.6 90.4 93.0 92.9 91.3 91.8 90.3 89.8 91.1 143.8

40000 79.1 83.6 85.3 86.0 87.0 89.6 89.0 85.4 85.4 83.0 81.6 83.7 143.1

50000 75.1 80.0 80.9 82.4 83.2 85.0 85.0 83.4 85.4 83.0 81.6 83.7 143.1

63000 69.3 78.1 78.2 82.1 80.8 82.2 81.8 80.2 82.9 80.6 81.6 83.7 147.7

80000 64.3 80.6 80.9 82.4 83.2 85.0 85.0 83.4 85.4 83.0 81.6 83.7 147.7

OASPL 114.1 114.2 113.5 113.6 112.9 113.5 113.2 113.6 115.5 118.4 121.6 125.0 124.7 161.3

PWL 126.7 127.2 126.3 126.8 126.1 126.9 126.5 126.5 127.9 130.4 132.1 134.7 133.8

PMLT 126.7 127.8 127.4 126.8 126.1 126.9 126.5 126.5 127.9 130.4 132.1 134.7 133.8

DBA 166.0 200.9 196.4 201.5 198.1 200.7 199.1 196.9 201.1 197.8 199.4 201.3 191.7

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH091 TEST DATE = 09-01-81
IAPLHA = SB59 LEGA = NO
WIND DIR = DEG WIND VEL = MPH
LOCAT = C41 ANECH CH CONFIO = 3
TAMB F = FULL SPHERE
EXT AREA = 40.0 FT
EXT DIST = 40.0 FT
EXT CONFIO = ARC
MIKE HT = 29.50
PAMB HG = 29.50
RELHUM = 68.7 PCT
FLTVEL = 0. FPSFNIN1 = FNRAMB = LBS XNL LBS XNL RPM XNHR RPM XNHR =
= 1665.7 FPS AEB = 25.3 SO IN
= 0. SO IN
CORR FAN SPEED = RPMORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-5301 X53011

ANGLES MEASURED FROM INLET, DEGREES

| | | | | | | | | | | | | | |
|---|-----------------------------|-------------|----------|------------|--------------|--------------|-------|-----------|-------|-----------|-------|----------|--------|
| ORIGINAL PAGE IS
OF POOR QUALITY | | | | | | | | | | | | | |
| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
| 50 | 64.1 | 68.1 | 70.2 | 70.7 | 71.0 | 74.5 | 76.5 | 78.2 | 81.9 | 86.5 | 89.1 | 90.6 | 87.1 |
| 63 | 64.2 | 69.2 | 69.6 | 71.3 | 72.8 | 74.8 | 76.8 | 78.8 | 81.8 | 86.1 | 89.9 | 92.1 | 88.2 |
| 80 | 66.0 | 69.8 | 70.7 | 72.4 | 73.4 | 74.9 | 76.4 | 78.2 | 80.5 | 86.6 | 90.7 | 92.2 | 88.4 |
| 100 | 68.8 | 69.9 | 71.7 | 73.3 | 74.8 | 76.0 | 77.3 | 79.0 | 82.1 | 86.5 | 90.3 | 91.7 | 87.2 |
| 125 | 73.9 | 76.8 | 77.7 | 77.9 | 76.7 | 78.0 | 79.5 | 80.7 | 83.0 | 86.2 | 89.2 | 90.3 | 86.5 |
| 160 | 75.3 | 78.4 | 77.3 | 78.3 | 79.4 | 80.1 | 80.4 | 80.3 | 83.2 | 85.8 | 88.3 | 88.9 | 85.0 |
| 200 | 82.8 | 81.3 | 80.9 | 79.0 | 77.2 | 77.7 | 80.3 | 81.1 | 82.9 | 85.2 | 86.7 | 87.1 | 82.3 |
| 250 | 85.1 | 83.5 | 80.3 | 79.0 | 78.5 | 80.3 | 82.4 | 85.8 | 84.2 | 84.5 | 79.3 | 164.5 | |
| 315 | 82.4 | 84.8 | 86.6 | 84.9 | 83.2 | 81.1 | 80.4 | 82.0 | 84.9 | 83.0 | 82.9 | 76.9 | 164.6 |
| 400 | 80.3 | 82.5 | 83.0 | 84.9 | 85.0 | 86.2 | 83.4 | 81.1 | 82.1 | 83.3 | 82.5 | 73.9 | 164.2 |
| 500 | 78.5 | 80.8 | 81.6 | 82.8 | 84.2 | 84.7 | 83.0 | 82.4 | 82.0 | 80.3 | 79.0 | 72.5 | 163.6 |
| 630 | 76.4 | 79.3 | 80.5 | 81.7 | 81.9 | 82.5 | 83.0 | 83.3 | 82.9 | 81.2 | 79.1 | 77.5 | 163.1 |
| 800 | 75.6 | 79.5 | 80.1 | 80.8 | 81.5 | 82.4 | 81.5 | 82.9 | 83.2 | 80.9 | 78.0 | 77.4 | 163.3 |
| 1000 | 73.5 | 78.2 | 80.2 | 80.9 | 80.7 | 81.9 | 81.6 | 81.7 | 82.7 | 81.0 | 76.8 | 75.3 | 163.2 |
| 1250 | 72.7 | 77.1 | 78.8 | 81.1 | 81.9 | 80.6 | 80.8 | 81.1 | 80.3 | 75.8 | 73.9 | 65.4 | 163.3 |
| 1600 | 69.8 | 75.2 | 77.5 | 79.4 | 79.9 | 81.1 | 79.6 | 78.4 | 78.7 | 77.5 | 74.1 | 70.1 | 162.7 |
| 2000 | 66.3 | 72.5 | 75.0 | 76.7 | 78.0 | 79.5 | 78.1 | 77.7 | 77.4 | 74.0 | 69.7 | 66.6 | 162.2 |
| 2500 | 62.1 | 68.9 | 71.4 | 74.0 | 75.4 | 76.3 | 74.5 | 74.0 | 69.9 | 66.0 | 61.9 | 48.0 | 161.8 |
| 3150 | 54.8 | 63.2 | 66.3 | 69.1 | 71.5 | 73.9 | 73.3 | 69.7 | 66.2 | 64.7 | 59.2 | 53.5 | 161.4 |
| 4000 | 43.4 | 54.6 | 59.0 | 62.3 | 64.5 | 67.5 | 67.0 | 64.0 | 62.2 | 56.9 | 50.2 | 41.1 | 161.2 |
| 5000 | 29.7 | 42.6 | 49.4 | 53.3 | 56.1 | 59.3 | 58.1 | 55.4 | 53.4 | 44.8 | 37.5 | 24.7 | 161.8 |
| 6300 | 7.9 | 24.7 | 33.0 | 39.0 | 42.2 | 45.7 | 44.0 | 40.0 | 37.5 | 27.8 | 17.7 | | 165.2 |
| 8000 | | | | | | | | | | | | | 169.4 |
| 10000 | | | | | | | | | | | | | |
| 12500 | | | | | | | | | | | | | |
| 16000 | | | | | | | | | | | | | |
| 20000 | | | | | | | | | | | | | |
| 25000 | | | | | | | | | | | | | |
| 31500 | | | | | | | | | | | | | |
| 40000 | | | | | | | | | | | | | |
| 50000 | | | | | | | | | | | | | |
| 63000 | | | | | | | | | | | | | |
| 80000 | | | | | | | | | | | | | |
| QASPL | 90.3 | 91.9 | 92.4 | 93.3 | 92.9 | 93.6 | 93.1 | 93.1 | 94.4 | 96.6 | 98.5 | 99.6 | 95.5 |
| PNLT | 96.1 | 97.7 | 99.1 | 100.1 | 100.5 | 101.7 | 101.0 | 100.5 | 100.9 | 100.6 | 100.0 | 99.8 | 94.3 |
| DBA | 84.7 | 87.6 | 88.7 | 90.1 | 90.2 | 91.2 | 90.3 | 90.0 | 90.3 | 89.5 | 87.4 | 86.6 | 80.7 |
| MODEL AREA = | 163.1 SQ CM (25.3 SQ IN) | | | | | | | | | | | | |
| SCALED AREA = | 9032.2 SQ CM (1400.0 SQ IN) | | | | | | | | | | | | |
| DIAMETER RATIO = | 7.442 | | | | | | | | | | | | |
| FREQ SHIFT = | -9 | | | | | | | | | | | | |
| NASA SHOCK CELL/COUNT, CONV. ANN. PLUG NOZ. SC-3/NAS3-22514 | | | | | | | | | | | | | |
| VEHICL = | ADH091 | TEST DATE = | 09-01-81 | LOCAT = | C41 ANECH CH | CONFIG = | 3 | MODEL = | 3 | PAMB HG = | 29.50 | RELHUM = | 0. FPS |
| IAPLHA = | SB59 | IEGA = | NO | PWL AREA = | FULL SPHERE | TAMB F = | 81.00 | MIKE HT = | SL | MODEL = | 3 | FLTVEL = | 0. FPS |
| WIND DIR = | DEG | WIND VEL = | MPH | EXT DIST = | 2400.0 FT | EXT CONFIG = | SL | MIKE HT = | SL | MODEL = | 3 | FLTVEL = | 0. FPS |
| FNINI = | LBS | XNL | RPM | XNH | RPM | V8 | RPM | V8 | RPM | V8 | RPM | V8 | RPM |
| FNRAMB = | LBS | XNLR | RPM | XNHR | RPM | V8 | RPM | V8 | RPM | V8 | RPM | V8 | RPM |
| ZER-5301 | TAPE | = X53011 | | | | | | | | | | | |
| TEST PT NO = | 5301 | NC | = 863 | | | | | | | | | | |
| CORR FAN SPEED = | RPM | | | | | | | | | | | | |

ORIGINAL PAGE IS
OF POOR QUALITY

BACKGROUNDS 81F-400-0300

ORIGINAL PAGE IS
OF POOR QUALITY

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 83.9 | 80.7 | 80.2 | 82.3 | 83.1 | 84.0 | 83.9 | 85.0 | 86.9 | 84.1 | 88.7 | 92.6 | 93.8 | 128.3 |
| 63 | 88.7 | 84.5 | 85.3 | 86.6 | 86.9 | 87.7 | 90.8 | 90.7 | 91.6 | 90.9 | 92.0 | 97.4 | 98.6 | 133.6 |
| 80 | 87.5 | 92.1 | 86.6 | 87.6 | 88.5 | 90.8 | 91.2 | 90.6 | 92.0 | 91.4 | 92.5 | 99.8 | 101.2 | 135.5 |
| 100 | 87.8 | 91.6 | 87.2 | 89.0 | 90.9 | 91.7 | 93.4 | 92.5 | 94.7 | 94.7 | 100.1 | 104.0 | 106.0 | 138.5 |
| 125 | 86.1 | 87.4 | 88.9 | 89.9 | 90.2 | 92.3 | 95.1 | 96.0 | 98.2 | 101.5 | 105.9 | 109.6 | 114.9 | 147.6 |
| 160 | 85.8 | 82.6 | 87.3 | 86.9 | 87.5 | 88.8 | 90.5 | 90.1 | 91.3 | 95.4 | 101.0 | 105.2 | 108.6 | 139.6 |
| 200 | 84.0 | 86.3 | 87.3 | 87.9 | 89.0 | 91.1 | 91.5 | 94.6 | 97.0 | 102.3 | 108.0 | 110.4 | 141.8 | |
| 250 | 84.8 | 91.3 | 88.8 | 89.1 | 90.2 | 93.1 | 95.0 | 96.1 | 98.1 | 101.9 | 107.5 | 113.9 | 145.5 | |
| 315 | 86.3 | 90.1 | 88.9 | 91.4 | 92.3 | 95.1 | 96.0 | 98.2 | 101.5 | 105.9 | 109.6 | 114.5 | 147.6 | |
| 400 | 87.3 | 89.9 | 90.1 | 90.4 | 90.5 | 93.9 | 95.0 | 97.9 | 101.9 | 107.7 | 112.1 | 116.3 | 149.1 | |
| 500 | 87.7 | 90.0 | 91.0 | 92.1 | 94.2 | 95.9 | 98.3 | 98.3 | 102.7 | 108.1 | 113.2 | 117.1 | 149.8 | |
| 630 | 89.1 | 91.3 | 91.4 | 92.2 | 92.7 | 94.6 | 96.5 | 98.2 | 101.2 | 108.4 | 114.6 | 118.2 | 151.0 | |
| 800 | 92.2 | 92.5 | 92.8 | 93.3 | 94.1 | 96.0 | 96.4 | 99.0 | 103.4 | 108.3 | 114.2 | 117.9 | 150.5 | |
| 1000 | 97.7 | 98.8 | 97.8 | 95.9 | 96.8 | 98.7 | 100.3 | 100.8 | 104.5 | 108.6 | 112.3 | 116.2 | 149.6 | |
| 1250 | 102.0 | 104.6 | 103.1 | 101.1 | 98.5 | 100.6 | 101.2 | 104.1 | 108.0 | 112.1 | 115.2 | 113.2 | 149.4 | |
| 1500 | 108.3 | 104.6 | 103.1 | 101.1 | 98.5 | 100.6 | 101.2 | 104.1 | 108.0 | 112.1 | 115.2 | 113.2 | 149.4 | |
| 2000 | 107.9 | 108.1 | 106.2 | 105.6 | 102.7 | 100.8 | 99.2 | 101.1 | 104.3 | 109.5 | 111.2 | 108.5 | 148.5 | |
| 2500 | 106.2 | 106.5 | 105.3 | 105.6 | 105.0 | 102.9 | 102.9 | 104.7 | 107.4 | 108.2 | 109.2 | 106.8 | 148.0 | |
| 3150 | 104.5 | 105.8 | 104.8 | 104.4 | 106.0 | 104.9 | 102.9 | 104.7 | 107.4 | 108.2 | 109.2 | 106.8 | 148.0 | |
| 4000 | 103.2 | 104.0 | 103.8 | 104.5 | 103.1 | 104.6 | 105.2 | 105.0 | 105.1 | 106.2 | 106.4 | 106.1 | 147.4 | |
| 5000 | 102.4 | 103.7 | 103.0 | 103.5 | 103.2 | 103.6 | 103.8 | 105.1 | 106.0 | 106.3 | 107.1 | 105.7 | 147.1 | |
| 6300 | 102.0 | 104.5 | 103.9 | 103.8 | 104.3 | 103.3 | 105.2 | 106.5 | 105.3 | 105.7 | 107.7 | 105.3 | 147.5 | |
| 8000 | 100.1 | 103.2 | 103.2 | 103.4 | 103.9 | 103.7 | 106.4 | 105.8 | 104.6 | 104.6 | 106.5 | 104.6 | 147.3 | |
| 10000 | 99.3 | 101.5 | 102.7 | 103.5 | 103.8 | 104.5 | 102.9 | 104.0 | 103.9 | 103.4 | 103.5 | 101.6 | 146.9 | |
| 12500 | 98.0 | 100.4 | 101.7 | 102.2 | 102.5 | 103.5 | 101.4 | 101.2 | 100.8 | 99.9 | 101.6 | 100.4 | 146.3 | |
| 16000 | 95.3 | 99.1 | 99.6 | 99.4 | 100.6 | 101.5 | 101.2 | 101.4 | 101.2 | 99.9 | 101.6 | 100.4 | 146.3 | |
| 20000 | 93.1 | 96.2 | 97.0 | 97.9 | 98.5 | 100.0 | 99.6 | 99.1 | 99.4 | 98.7 | 97.7 | 99.4 | 146.0 | |
| 25000 | 89.2 | 93.6 | 94.1 | 94.3 | 95.9 | 98.3 | 97.8 | 95.9 | 97.5 | 95.4 | 97.0 | 92.3 | 145.9 | |
| 31500 | 84.7 | 89.6 | 90.1 | 91.1 | 92.4 | 94.5 | 93.9 | 93.0 | 94.0 | 92.8 | 92.3 | 94.1 | 145.6 | |
| 40000 | 81.1 | 85.1 | 87.0 | 88.5 | 89.0 | 91.4 | 91.0 | 90.1 | 91.5 | 88.8 | 89.6 | 90.9 | 146.5 | |
| 50000 | 77.1 | 81.5 | 82.9 | 82.9 | 85.4 | 88.2 | 87.5 | 85.0 | 88.9 | 87.0 | 88.8 | 87.2 | 151.4 | |
| 63000 | 72.8 | 79.8 | 81.2 | 81.2 | 83.6 | 85.7 | 85.0 | 82.5 | 88.1 | 83.6 | 85.1 | 87.2 | 157.0 | |
| 80000 | 71.6 | 80.4 | 78.7 | 78.7 | 80.7 | 83.5 | 81.7 | 81.7 | 88.5 | 80.6 | 82.8 | 85.5 | 157.0 | |
| GASPL | 115.0 | 115.5 | 114.7 | 114.9 | 114.3 | 115.1 | 114.6 | 115.1 | 117.1 | 119.9 | 123.2 | 126.7 | 125.9 | 163.5 |
| PNL1 | 128.4 | 128.8 | 127.3 | 127.7 | 127.0 | 128.0 | 127.6 | 128.0 | 129.4 | 132.1 | 133.9 | 136.6 | 135.3 | |
| DBA | 115.6 | 115.7 | 114.7 | 114.8 | 113.8 | 114.3 | 113.8 | 114.2 | 116.3 | 119.3 | 122.2 | 125.5 | 124.2 | |
| NASA SHOCK CELL/CONT. CONV. ANN. PLUG NO2. SC-3/NAS3-22514 | | | | | | | | | | | | | | |
| VEHICL = ADH090 TEST DATE = 09-01-81 LGCAT = C41 ANECH CH CONFIG = 3 MODEL = 3 FTVEL = 0. FPS | | | | | | | | | | | | | | |
| IAPLHA = SB59 DEG WIND VEL = NO EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = 29.50 RELHUM = 68.7 PCT | | | | | | | | | | | | | | |
| FNIN1 = LBS XNLR = RPM XNHR = = V8 = 1718.3 FPS AE18 = 0. SQ IN | | | | | | | | | | | | | | |
| FNRAMB = = = = = = CORR FAN SPEED = RPM | | | | | | | | | | | | | | |
| RUNPT = 81F-ZER-5313 TAPE = X5313C TEST PT NO = 5313 NC = 863 CORR FAN SPEED = RPM | | | | | | | | | | | | | | |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - BIF-ZER-5313 X5313F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 63 80 100 125 150 200 250 315 400 500 630 800 1000

83.9 88.7 84.5 85.3 89.6 89.7 90.8 90.7 90.8 85.0 86.9 84.1 88.7 92.6 93.8 128.3

87.5 92.1 87.6 88.5 90.8 91.2 90.6 92.0 91.4 92.5 95.2 97.4 133.4

87.8 91.6 87.4 89.2 90.0 90.9 91.7 92.3 92.5 94.7 100.1 104.0 106.0 138.5

86.1 87.4 88.9 89.1 90.4 90.5 91.1 91.5 91.3 94.1 96.0 96.4 99.0 103.4 108.3 114.2 117.9 116.3 150.5

87.7 90.7 90.0 91.0 92.1 94.2 95.9 98.3 100.7 100.8 104.5 108.6 112.3 114.4 149.6

102.0 104.5 103.9 103.8 104.3 103.3 103.7 106.4 105.8 104.6 103.3 102.7 117.1 116.0 149.8

102.4 103.7 103.0 103.6 103.2 103.8 104.3 103.3 103.7 106.4 105.3 105.7 107.1 105.7 147.1

103.2 103.2 103.9 103.4 103.9 103.3 103.7 106.4 105.8 104.6 103.3 102.7 107.7 105.3 147.3

104.5 104.8 105.4 104.4 106.0 104.9 102.9 104.7 107.4 108.2 109.2 106.8 148.0

103.2 103.7 103.0 103.6 103.2 103.8 104.3 103.3 103.7 106.4 105.3 105.7 107.1 105.7 147.1

104.5 104.8 105.4 104.4 106.0 104.9 102.9 104.7 107.4 108.2 109.2 106.8 148.0

103.2 103.2 103.9 103.4 103.9 103.3 103.7 106.4 105.8 104.6 103.3 102.7 107.7 105.3 147.3

104.5 104.8 105.4 104.4 106.0 104.9 102.9 104.7 107.4 108.2 109.2 106.8 148.0

103.2 103.7 103.0 103.6 103.2 103.8 104.3 103.3 103.7 106.4 105.3 105.7 107.1 105.7 147.1

104.5 104.8 105.4 104.4 106.0 104.9 102.9 104.7 107.4 108.2 109.2 106.8 148.0

103.2 103.2 103.9 103.4 103.9 103.3 103.7 106.4 105.8 104.6 103.3 102.7 107.7 105.3 147.3

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OF POOR QUALITY

VEHICLE = ADH090 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = 3 FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 81.00 PAMB HG = 29.50 RELHUM = 68.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR
FNIN1 = LBS XNL RPM XNH XNHR = RPM V8 = 1718.3 FPS AEB = 25.3 SQ IN
FNRAMB = LBS XNL RPM XNH XNHR = RPM V18 = 1718.3 FPS AEB = 25.3 SQ IN
ZER-5313 TAPE = X5313F TEST PT NO = 5313 NC = 863 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-5313 X53131

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | PWL |
|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50 | 65.3 | 69.4 | 70.7 | 71.7 | 72.2 | 75.7 | 76.7 | 79.2 | 82.4 | 87.2 | 90.1 | 92.1 | 88.4 |
| 60 | 65.7 | 70.2 | 70.6 | 72.3 | 73.8 | 76.1 | 77.6 | 79.6 | 83.8 | 87.6 | 91.2 | 92.9 | 88.4 |
| 80 | 67.0 | 70.8 | 71.9 | 73.4 | 74.4 | 76.4 | 78.2 | 79.4 | 81.7 | 87.9 | 92.5 | 93.9 | 89.7 |
| 100 | 70.0 | 71.9 | 73.2 | 74.5 | 75.8 | 77.6 | 78.0 | 80.3 | 83.8 | 87.7 | 92.0 | 93.5 | 88.4 |
| 125 | 75.4 | 76.1 | 79.2 | 78.9 | 77.5 | 78.5 | 80.2 | 81.2 | 84.0 | 88.2 | 90.9 | 92.1 | 88.0 |
| 160 | 79.5 | 81.7 | 79.3 | 79.8 | 80.9 | 81.9 | 82.1 | 81.8 | 84.7 | 87.8 | 89.8 | 91.4 | 86.0 |
| 200 | 85.5 | 83.5 | 82.0 | 79.7 | 80.0 | 81.8 | 82.1 | 84.2 | 86.9 | 89.4 | 90.1 | 84.3 | 156.8 |
| 250 | 84.9 | 86.7 | 86.1 | 86.3 | 83.8 | 82.0 | 80.3 | 81.8 | 84.1 | 87.1 | 86.5 | 87.0 | 81.3 |
| 315 | 82.7 | 84.8 | 85.3 | 86.6 | 86.4 | 85.9 | 83.4 | 81.9 | 83.3 | 86.9 | 84.7 | 85.1 | 78.1 |
| 400 | 80.5 | 83.7 | 84.0 | 85.4 | 85.0 | 86.7 | 85.4 | 82.9 | 83.9 | 85.3 | 84.3 | 82.4 | 75.4 |
| 500 | 78.8 | 81.5 | 82.6 | 84.3 | 83.3 | 85.0 | 84.4 | 83.9 | 83.7 | 82.0 | 81.0 | 73.7 | 164.8 |
| 630 | 77.4 | 80.8 | 81.5 | 82.9 | 83.1 | 83.8 | 83.7 | 84.5 | 84.7 | 82.1 | 81.3 | 79.0 | 164.5 |
| 800 | 76.6 | 81.2 | 82.1 | 83.5 | 84.2 | 83.0 | 84.4 | 84.7 | 82.2 | 78.8 | 77.1 | 68.8 | 164.8 |
| 1000 | 74.2 | 79.7 | 81.2 | 82.9 | 83.7 | 82.8 | 82.7 | 84.4 | 82.2 | 78.8 | 77.5 | 66.9 | 164.9 |
| 1250 | 72.9 | 77.6 | 80.5 | 82.3 | 83.2 | 84.2 | 82.3 | 82.8 | 83.1 | 81.8 | 77.5 | 75.1 | 164.3 |
| 1600 | 70.8 | 75.9 | 79.0 | 80.7 | 81.6 | 82.8 | 80.8 | 80.2 | 79.0 | 75.8 | 71.7 | 68.3 | 163.7 |
| 2000 | 67.1 | 74.0 | 77.7 | 79.5 | 80.8 | 80.8 | 78.0 | 79.7 | 78.2 | 75.7 | 71.7 | 67.8 | 163.7 |
| 2500 | 63.1 | 69.9 | 73.1 | 75.5 | 76.9 | 78.7 | 76.7 | 75.5 | 72.4 | 67.7 | 63.4 | 49.7 | 163.5 |
| 3150 | 55.8 | 64.9 | 68.3 | 70.3 | 73.0 | 75.7 | 74.8 | 72.0 | 71.7 | 66.7 | 61.7 | 56.0 | 163.3 |
| 4000 | 45.1 | 56.1 | 60.5 | 63.8 | 66.5 | 68.0 | 65.8 | 64.4 | 59.4 | 52.7 | 44.1 | 36.5 | 163.0 |
| 5000 | 31.7 | 44.1 | 51.2 | 55.8 | 58.1 | 61.0 | 60.1 | 57.4 | 47.8 | 40.2 | 27.2 | 0.5 | 165.3 |
| 6300 | 9.9 | 26.2 | 35.0 | 43.7 | 44.4 | 48.0 | 46.5 | 42.5 | 41.0 | 31.8 | 19.7 | 0.5 | 168.9 |
| 8000 | | | | | | | | | | | | | 174.4 |

ORIGINAL PAGE 11
OF POOR QUALITY

MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9
NASA SHOCK CELL/CNT. CONV. ANN. PLUG NO2. SC-3/NAS3-22514

VEHICL = ADH090 TEST DATE = 09-01-81 LOCAL = C41 ANECH CH CNF10 = 3 MODEL = 3 FLTVEL = 0. FPS
IAPLHA = SB59 IE6A = NO EXT DIST = 2400.0 FT TAMB F = 81.00 PAMB HG = 29.50 RELHUM = 68.7 PCT
WIND DIR = DE9 WIND VEL = MPH WIND VEL = 0. FPS
FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 1718.3 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNL RPM XNH XNHR = RPM V8 = 1718.3 FPS AE8 = 25.3 SQ IN
CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-5323 X5323C

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 84.9 83.0 81.2 82.5 83.1 84.5 83.6 85.0 87.4 84.1 89.4 92.9 93.5 128.6

63 89.0 85.8 85.8 89.1 89.9 91.5 90.7 91.6 92.1 91.6 91.7 98.2 98.8 134.0

80 88.0 92.3 86.8 86.1 89.2 91.6 92.7 91.1 92.5 92.4 93.3 95.5 97.6 134.0

100 88.6 92.6 88.4 90.2 90.7 91.6 93.2 94.7 93.0 93.7 95.8 100.3 101.9 136.3

125 86.6 87.9 89.7 90.9 91.3 93.7 93.5 92.9 92.5 95.2 101.1 104.8 107.2 139.4

160 86.5 83.6 87.4 88.2 89.3 90.7 90.9 92.1 95.6 101.3 105.7 109.1 140.1

200 85.3 87.3 87.8 88.6 89.7 91.6 92.5 94.7 96.6 98.8 103.2 108.8 117.8 151.5

250 85.8 90.6 93.1 92.6 93.5 94.9 96.7 99.2 101.4 109.4 115.8 119.5 118.7 152.2

300 88.9 92.0 91.0 91.8 92.9 94.7 96.6 98.8 103.2 108.8 114.5 119.1 117.8 151.5

350 88.1 90.6 91.1 91.4 91.3 94.1 96.0 98.4 102.1 108.4 113.3 117.3 116.7 150.1

400 88.1 90.6 91.1 91.4 91.3 94.1 96.0 98.4 102.1 108.4 113.3 117.3 116.7 150.1

450 88.1 90.6 91.1 91.4 91.3 94.1 96.0 98.4 102.1 108.4 113.3 117.3 116.7 150.1

500 103.9 105.5 104.7 105.2 105.7 106.1 106.3 107.0 107.4 107.7 109.4 109.4 106.9 149.0

550 102.5 105.0 105.4 105.6 105.8 106.5 107.0 108.3 107.1 107.2 108.5 106.3 149.1

600 101.3 103.7 104.2 104.6 105.7 105.0 106.2 107.9 107.0 105.9 107.5 105.3 148.7

650 100.6 102.4 103.3 104.8 104.6 105.0 106.0 107.3 106.4 105.2 106.8 104.8 148.8

700 98.8 101.4 102.2 102.7 104.0 105.3 104.0 103.7 104.9 104.8 103.8 104.8 148.2

750 95.8 99.4 100.1 101.0 101.6 102.8 102.2 103.0 103.5 101.8 101.2 102.6 147.5

800 93.4 96.5 96.5 96.5 96.5 96.5 96.5 96.5 96.5 96.5 96.5 96.5 147.0

850 90.0 94.0 94.5 95.6 95.6 95.6 95.6 95.6 95.6 95.6 95.6 95.6 146.9

900 85.6 90.4 90.7 91.9 91.9 91.9 91.9 91.9 91.9 91.9 91.9 91.9 146.7

950 81.7 86.3 87.7 89.2 90.1 92.3 92.6 90.7 93.4 90.5 91.5 93.3 147.9

1000 74.4 81.4 81.8 84.9 87.6 84.9 87.6 84.9 87.6 84.9 87.6 84.9 149.1

1050 71.8 83.1 80.2 87.9 82.9 86.5 83.9 80.6 87.9 82.3 86.2 86.0 158.0

1100 128.8 129.6 128.7 129.2 128.8 129.6 129.3 129.6 130.8 132.8 135.1 137.8 136.3

1150 117.3 117.3 116.4 116.5 116.0 116.2 115.7 115.7 117.5 120.1 123.5 126.9 125.4

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514
VEHICLE = ADH089 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = 3 PAMB HG = 29.46 MIKE HT = 29.46 RELHUM = 68.3 PCT
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE EXT DIST = 40.0 FT TAMB F = 80.00 EXT CONFIG = ARC
WIND DIR = DEG WIND VEL = MPH
FNINI = LBS XNL RPM XNHR = RPM V8 = 1753.5 FPS AE8 = 25.3 SO IN FPS AE18 = 0. SO IN
FNRAMB = LBS XNLR RPM XNHR = RPM V18 = 1753.5 FPS AE18 = 25.3 SO IN FPS AE18 = 0. SO IN
RUNPT = 81F-ZER-5323 TAPE = X5323C TEST PT NO = 5323 NC = 863 CORR FAN SPEED = RPM

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DATPROC - FLTRAN

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-5323 X5323F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 84.9 83.0 81.2 82.5 83.1 84.5 83.6 85.0 87.4 84.1 89.4 92.9 93.5 128.6

63 89.0 85.8 85.8 89.1 89.9 91.5 90.7 91.6 92.1 91.6 98.2 98.8 134.0

80 88.0 92.3 86.8 88.1 89.2 91.8 92.8 91.1 91.6 92.5 92.4 93.3 95.5 97.6 134.0

100 88.6 92.6 86.4 88.4 90.2 91.6 93.2 94.7 93.0 93.7 95.8 100.3 101.9 136.3

125 86.6 87.9 89.7 90.9 91.3 93.7 93.5 92.9 92.5 95.2 101.1 104.8 107.2 139.4

150 86.5 83.6 87.6 87.4 88.2 89.3 90.7 90.9 92.1 95.6 101.3 105.7 109.1 140.1

175 86.5 83.6 87.6 87.4 88.2 89.3 90.7 90.9 92.1 95.6 101.3 105.7 109.1 140.1

200 88.1 90.6 89.6 92.2 93.0 95.1 96.8 98.9 101.8 108.4 113.3 117.3 150.1

225 85.8 91.8 89.8 90.1 91.2 93.6 96.0 97.1 98.8 102.6 109.0 113.7 146.8

250 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3

275 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3

300 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3

325 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3

350 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3

375 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3

400 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3

425 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3

450 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3

475 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3

500 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3

525 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3

550 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3

575 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3

600 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3 87.3

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NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH089 TEST DATE = 09-01-81

WIND DIR = SB59 DEG WIND VEL = NO MPH

FNIN1 = LBS XNLR = RPM XNHR = RPM

TEST PT NO = 5323 NC = 863 CORR FAN SPEED = RPM

ANGLES MEASURED FROM INLET, DEGREES

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MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN)
SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)
DIAMETER RATIO = 7.442
FREQ SHIFT = -9
```

NASA SHOCK CELL/CONT, CONV, ANN, PLUG NOZ, SC-3/NAS3-22514

| | | | | | | | | | | | | | | | | | |
|----------|---|--------|-----------|---|----------|----------|---|--------------|--------|---|-------|----------|---|-----------|------------|---|----------|
| VEHICL | = | ADH089 | TEST DATE | = | 09-01-81 | LOCAT | = | C41 ANECH CH | CONFIG | = | 3 | MODEL | = | 3 | FLTVL | = | 0. FPS |
| IAPLHA | = | SB59 | LEGA | = | NO | PWL AREA | = | FULL SPHERE | TAMB F | = | 80.00 | PAMB HG | = | 29.46 | RELHUM | = | 68.3 PCT |
| WIND DIR | = | | DEG | | | WIND VEL | = | | MPH | | | EXT DIST | = | 2400.0 FT | EXT CONFIG | = | SL |
| | | | | | | | | | | | | MIKE HT | = | | | | NBR |

| | | | | | | | | | | | | | | | | |
|--------|---|-----|------|---|-----|------|---|-----|-----|---|--------|-----|------|---|------|-------|
| FNINI | = | LBS | XNL | = | RPM | XNH | = | RPM | V8 | = | 1753.5 | FPS | AE8 | = | 25.3 | SQ IN |
| FNRAMB | = | LBS | XNLR | = | RPM | XNHR | = | RPM | V18 | = | | FPS | AE18 | = | 0. | SQ IN |

1 RUNPT = ZER-5023 TAPE = X50231 TEST PT NO = 5023 NC = 863 CORR FAN SPEED = RPM

4.5 Acoustic Data of Model 4

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-0401 X0401C

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|---|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 84.7 | 83.7 | 82.7 | 82.0 | 82.4 | 87.0 | 86.6 | 87.5 | 89.2 | 96.1 | 95.9 | 95.4 | 96.0 |
| 60 | 87.5 | 87.8 | 88.0 | 87.6 | 89.7 | 93.0 | 92.2 | 91.1 | 94.3 | 100.4 | 99.2 | 98.7 | 99.6 |
| 80 | 90.5 | 90.6 | 90.9 | 91.5 | 95.1 | 95.2 | 94.6 | 95.6 | 95.9 | 98.3 | 99.5 | 101.1 | 137.5 |
| 100 | 89.8 | 95.8 | 91.4 | 92.9 | 94.0 | 95.4 | 96.0 | 97.2 | 96.1 | 98.9 | 100.1 | 103.3 | 104.7 |
| 125 | 87.9 | 90.4 | 91.4 | 93.7 | 94.5 | 97.2 | 96.8 | 95.9 | 97.9 | 101.2 | 107.4 | 108.5 | 143.3 |
| 160 | 86.8 | 86.6 | 89.6 | 89.6 | 90.2 | 91.6 | 94.0 | 94.1 | 97.3 | 102.2 | 106.5 | 109.0 | 143.5 |
| 200 | 88.0 | 86.8 | 86.3 | 89.4 | 91.5 | 94.8 | 94.7 | 96.6 | 101.3 | 104.4 | 108.5 | 111.7 | 145.8 |
| 250 | 88.3 | 91.3 | 91.1 | 92.6 | 93.7 | 94.8 | 97.2 | 99.6 | 104.1 | 109.9 | 114.8 | 116.7 | 150.3 |
| 315 | 88.6 | 91.1 | 90.6 | 92.2 | 94.0 | 96.9 | 98.5 | 101.4 | 107.9 | 113.7 | 115.8 | 115.9 | 151.7 |
| 400 | 92.1 | 93.1 | 93.6 | 95.2 | 95.0 | 98.6 | 100.3 | 106.2 | 114.6 | 120.7 | 121.6 | 121.0 | 156.7 |
| 500 | 90.2 | 94.0 | 93.0 | 94.0 | 96.1 | 98.3 | 100.4 | 104.0 | 109.8 | 117.8 | 120.2 | 119.6 | 154.8 |
| 630 | 92.1 | 94.6 | 94.1 | 96.2 | 97.0 | 99.6 | 102.0 | 105.3 | 111.1 | 120.7 | 122.6 | 121.0 | 157.0 |
| 800 | 96.4 | 95.5 | 95.3 | 96.8 | 98.6 | 100.2 | 102.1 | 105.4 | 111.5 | 120.8 | 122.5 | 120.9 | 156.8 |
| 1000 | 101.2 | 101.5 | 100.0 | 99.5 | 99.9 | 101.5 | 103.6 | 106.5 | 112.0 | 120.6 | 122.0 | 120.4 | 156.6 |
| 1250 | 98.7 | 104.0 | 102.0 | 103.2 | 103.3 | 104.7 | 107.1 | 112.5 | 120.3 | 119.5 | 122.1 | 118.2 | 156.4 |
| 1600 | 99.7 | 99.3 | 100.6 | 101.1 | 101.7 | 103.5 | 105.8 | 108.2 | 113.3 | 119.5 | 122.1 | 118.2 | 156.0 |
| 2000 | 102.2 | 102.3 | 100.5 | 99.9 | 100.9 | 102.8 | 104.9 | 108.4 | 113.5 | 119.9 | 119.8 | 116.3 | 155.0 |
| 2500 | 102.1 | 102.7 | 101.2 | 102.0 | 101.3 | 103.2 | 106.0 | 108.7 | 112.9 | 119.0 | 118.7 | 114.2 | 154.2 |
| 3150 | 101.5 | 102.3 | 101.3 | 102.4 | 104.3 | 105.6 | 108.3 | 112.7 | 117.6 | 118.0 | 115.7 | 112.2 | 153.4 |
| 4000 | 99.5 | 100.2 | 100.0 | 100.8 | 102.6 | 104.3 | 106.2 | 109.3 | 112.4 | 116.0 | 115.7 | 107.9 | 152.2 |
| 5000 | 97.7 | 99.5 | 98.8 | 100.0 | 101.7 | 103.7 | 105.3 | 107.9 | 111.4 | 114.8 | 115.3 | 110.4 | 151.4 |
| 6300 | 96.8 | 98.8 | 98.2 | 99.5 | 101.4 | 103.6 | 105.1 | 107.6 | 110.8 | 113.7 | 113.5 | 108.6 | 150.7 |
| 8000 | 95.2 | 97.9 | 97.9 | 98.3 | 100.0 | 103.1 | 104.9 | 106.9 | 109.4 | 112.7 | 111.8 | 108.4 | 149.9 |
| 10000 | 95.1 | 96.5 | 97.1 | 98.3 | 100.1 | 102.6 | 103.7 | 106.0 | 108.9 | 111.8 | 112.0 | 107.9 | 149.9 |
| 12500 | 92.7 | 94.9 | 95.9 | 96.4 | 98.7 | 100.9 | 101.9 | 104.2 | 107.3 | 110.3 | 105.4 | 101.5 | 148.9 |
| 16000 | 89.7 | 93.1 | 93.6 | 94.2 | 96.3 | 98.9 | 99.9 | 102.7 | 104.8 | 107.9 | 107.7 | 103.3 | 148.1 |
| 20000 | 87.3 | 90.0 | 90.7 | 92.2 | 93.5 | 96.5 | 97.6 | 99.4 | 102.1 | 105.4 | 105.6 | 101.7 | 147.4 |
| 25000 | 83.2 | 87.1 | 87.4 | 88.4 | 91.0 | 94.1 | 95.6 | 96.1 | 99.6 | 104.1 | 104.2 | 100.1 | 147.9 |
| 31500 | 78.2 | 83.1 | 83.4 | 84.5 | 87.0 | 90.6 | 91.7 | 93.7 | 97.6 | 101.1 | 101.3 | 96.4 | 148.1 |
| 40000 | 73.8 | 78.6 | 79.8 | 80.6 | 83.3 | 86.9 | 88.0 | 90.4 | 95.3 | 98.0 | 99.8 | 95.2 | 149.6 |
| 50000 | 69.4 | 74.0 | 74.4 | 76.1 | 78.6 | 82.6 | 83.9 | 86.1 | 92.3 | 98.1 | 97.8 | 91.2 | 152.2 |
| 63000 | 63.9 | 69.8 | 70.1 | 72.3 | 74.6 | 77.5 | 80.0 | 82.2 | 89.8 | 95.4 | 95.3 | 88.0 | 154.7 |
| 80000 | 59.2 | 65.9 | 65.2 | 66.2 | 68.6 | 72.6 | 74.4 | 76.5 | 85.4 | 91.6 | 92.2 | 83.6 | 157.8 |
| OASPL | 110.8 | 112.3 | 111.4 | 112.1 | 113.2 | 115.1 | 116.8 | 119.6 | 124.2 | 130.6 | 131.9 | 130.1 | 127.6 |
| PNLT | 124.1 | 125.3 | 124.5 | 125.4 | 126.1 | 128.1 | 129.8 | 132.6 | 137.6 | 143.2 | 143.0 | 143.5 | 137.0 |
| DBA | 111.1 | 112.3 | 111.3 | 112.0 | 112.8 | 114.6 | 116.5 | 119.3 | 123.8 | 130.2 | 131.3 | 128.9 | 125.8 |
| NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514 | | | | | | | | | | | | | |
| VEHICL | = ADH022 | | | | | | | | | | | | |
| IAPLHA | = SB59 | | | | | | | | | | | | |
| WIND DIR | = | | | | | | | | | | | | |
| WIND VEL | = | | | | | | | | | | | | |
| LOCAT | = C41 ANECH CH | | | | | | | | | | | | |
| EXT DIST | = 40.0 FT | | | | | | | | | | | | |
| EXT CONFIG | = ARC | | | | | | | | | | | | |
| MODEL | = 4 | | | | | | | | | | | | |
| PAMB HG | = 29.70 | | | | | | | | | | | | |
| RELHUM | = | | | | | | | | | | | | |
| NBFR | = | | | | | | | | | | | | |
| FLTVEL | = 0. FPS | | | | | | | | | | | | |
| FNIN1 | = | | | | | | | | | | | | |
| LBS XNL | = | | | | | | | | | | | | |
| RPM XNHR | = | | | | | | | | | | | | |
| RPM XNHR | = | | | | | | | | | | | | |
| TEST PT NO | = 0401 | | | | | | | | | | | | |
| NC | = 861 | | | | | | | | | | | | |
| CORR FAN SPEED | = | | | | | | | | | | | | |
| RPM | = | | | | | | | | | | | | |
| FNRMB | = | | | | | | | | | | | | |
| LBS XNL | = | | | | | | | | | | | | |
| RPM XNHR | = | | | | | | | | | | | | |
| RPM XNHR | = | | | | | | | | | | | | |
| TEST PT NO | = 0401 | | | | | | | | | | | | |
| NC | = 861 | | | | | | | | | | | | |
| CORR FAN SPEED | = | | | | | | | | | | | | |
| RPM | = | | | | | | | | | | | | |

ORIGINAL PAGE IS
OF POOR QUALITY

ANGLES MEASURED FROM INLET, DEGREES

ORIGINAL PAGE 19
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-0401 X04011

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 70.1 72.6 74.2 76.5 76.7 80.5 82.0 87.5 95.2 100.2 99.6 90.6 174.2

63 68.2 73.5 73.6 75.3 77.8 80.1 82.1 85.3 90.3 97.3 98.2 95.4 172.2

80 70.0 74.1 74.7 77.4 78.7 81.4 83.7 86.7 91.7 100.1 100.5 96.7 174.4

100 74.3 74.9 75.7 78.0 80.3 82.0 83.8 86.5 92.0 100.2 100.3 96.5 174.3

125 78.9 80.8 80.4 80.7 81.4 83.2 85.2 87.7 92.4 99.9 99.7 174.1

160 76.2 83.2 82.3 83.6 84.6 84.8 86.1 88.4 91.9 95.5 94.0 170.8

200 77.0 78.2 80.6 81.9 83.0 85.0 87.1 89.0 93.4 98.4 99.4 173.4

250 79.1 81.0 80.5 80.8 82.1 84.2 86.8 89.1 92.4 97.4 98.6 172.5

315 78.7 81.0 80.8 82.3 84.2 86.8 89.1 92.4 97.4 98.6 172.5

400 77.5 80.2 80.5 82.4 84.9 86.1 88.4 91.9 95.5 94.0 170.8

500 75.0 77.8 78.9 80.5 82.8 84.7 86.4 89.0 91.3 93.5 91.3 169.7

630 72.7 76.6 77.3 79.5 81.7 83.8 85.3 87.3 89.9 92.0 90.4 168.8

800 71.4 75.6 76.5 78.7 81.1 83.5 84.8 86.8 89.1 90.5 88.1 168.1

1000 69.4 74.3 75.9 77.3 79.6 82.9 84.5 85.9 87.4 89.2 86.0 167.3

1250 68.7 72.7 74.8 77.1 79.5 82.2 83.1 84.8 86.6 87.9 85.6 167.3

1600 65.4 70.4 73.2 74.9 77.8 80.3 81.0 82.7 84.6 85.6 83.1 167.3

2000 61.5 68.1 70.6 72.4 75.2 77.4 78.8 80.9 81.7 82.9 79.5 165.5

2500 57.3 63.7 66.8 69.8 71.9 75.2 76.0 77.0 78.2 79.1 75.6 164.8

3150 49.9 58.4 61.6 64.5 68.1 71.5 72.7 73.8 75.4 76.8 73.8 163.3

4000 38.6 49.6 53.8 57.3 61.0 65.0 65.8 66.5 68.0 67.7 61.7 165.5

5000 24.4 37.6 43.9 48.0 52.4 56.5 57.1 57.8 59.5 57.0 50.4 167.0

6300 2.2 18.7 26.5 32.6 37.6 42.3 42.9 42.6 44.4 42.9 30.6 169.6

8000 0.8 9.6 15.5 19.5 20.9 20.5 20.5 15.3 172.2 175.2

10000 0.8 9.6 15.5 19.5 20.9 20.5 20.5 15.3 172.2 175.2

300

ORIGINAL PAGE IS
OF POOR QUALITY

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

VEHICL = ADH022 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONFIG = 4 TAMB F = 70.00 PAMB HG = 29.70 FLTVEL = 0. FPS
IAPLHA = SB59 DEG WIND VEL = NO PWL AREA = FULL SPHERE EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR = 57.9 PCT
FNIN1 = LBS XNL RPM XNH RPM XNHR = V8 RPM V8 = 2284.0 FPS AEB = 25.3 SQ IN = 0. SQ IN
FNRAMB = LBS XNL RPM XNH RPM XNHR = V8 RPM V8 = 2284.0 FPS AEB = 25.3 SQ IN = 0. SQ IN

RUNPT = 8 ER-0401 TAPE = X04011 TEST PT NO = 0401 NC = 861

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

ANGLES MEASURED FROM INLET, DEGREES

IDENTIFICATION - MODEL 81F-400-0402 X0402C
BACKGROUND 81F-400-0400 X04000

FREQ 50 60 70 80 90 100 110 120 130 140 150 160

PWL

86.6 85.3 81.2 81.3 81.4 82.5 82.6 86.8 86.0 87.1 96.4 92.6 96.7 130.9
63 87.7 87.7 86.0 86.5 87.7 90.1 92.4 90.4 99.9 94.3 99.4 134.4
80 89.9 95.0 89.3 90.5 91.1 93.4 93.4 92.6 94.2 93.0 96.2 97.9 100.6 136.1
100 89.8 94.3 90.0 91.3 92.2 93.3 94.4 95.4 94.5 94.9 97.5 102.0 104.1 137.9
125 86.5 89.6 89.8 91.7 92.5 94.6 94.5 94.2 94.4 96.9 103.6 105.5 107.9 140.6
150 85.2 82.9 86.8 87.1 88.7 90.1 90.5 93.0 98.4 103.8 106.2 109.6 140.9
200 84.8 84.7 85.3 87.5 90.5 91.1 93.8 97.8 99.6 104.5 109.2 111.4 142.9
250 83.9 87.5 86.9 88.0 89.9 91.0 93.2 95.3 98.8 104.9 110.3 112.9 146.4
315 84.5 87.5 86.5 87.5 89.2 92.8 96.4 101.1 108.2 111.6 114.3 112.7 147.5
400 87.0 88.8 88.3 89.1 90.7 94.1 96.5 100.4 107.1 113.7 115.6 116.0 150.5
500 86.7 89.2 89.5 90.8 92.1 94.7 97.1 101.0 106.8 114.6 117.5 115.9 151.3
630 88.0 90.6 91.4 93.2 95.1 96.7 98.1 101.8 107.3 116.3 119.7 113.9 152.5
800 90.7 91.2 92.0 94.1 96.7 98.1 101.8 107.3 116.3 119.7 113.9 152.5

1000 94.2 95.2 94.0 94.6 95.4 97.3 99.4 102.1 107.5 116.8 120.2 113.2 152.9
1250 93.5 96.0 97.1 98.2 99.0 100.4 103.3 116.9 120.4 119.9 111.2 103.0 153.2
1500 96.5 96.1 96.3 97.4 99.8 102.5 104.5 109.3 116.0 119.9 111.2 103.0 152.6
2000 98.9 100.3 98.0 96.6 96.7 99.3 102.2 104.4 110.0 117.2 119.3 111.1 152.7
2500 97.4 99.2 99.0 99.8 98.3 99.7 101.5 104.5 109.4 116.1 117.2 110.0 151.4
3150 95.8 97.3 96.6 98.6 99.9 101.0 104.9 108.9 114.4 116.7 108.2 100.5 150.6
4000 94.0 95.8 96.8 98.6 99.9 100.8 102.5 105.3 109.2 113.5 114.0 106.9 149.3
5000 92.2 94.5 94.0 95.8 97.5 99.7 102.1 104.6 108.6 112.3 112.8 105.4 148.5
6300 92.6 94.6 93.5 95.0 96.9 99.4 100.8 104.3 107.8 111.5 105.3 97.4 147.9
8000 91.5 93.9 93.4 95.3 96.8 98.0 99.6 102.8 105.7 108.8 108.5 102.2 146.3
10000 90.6 92.5 92.6 94.3 95.8 96.0 99.6 102.8 105.7 108.8 108.5 102.2 146.3
12500 88.9 90.4 91.4 92.4 94.2 96.7 97.9 100.4 104.0 106.8 107.0 100.9 145.4
15000 85.9 88.4 89.1 89.9 91.5 95.8 98.8 99.9 101.5 103.9 98.8 93.3 144.1
16000 85.9 88.4 89.1 89.9 91.5 95.8 98.8 99.9 101.5 103.9 98.8 93.3 144.1
20000 83.8 86.2 87.2 88.9 91.7 93.1 95.7 98.1 100.5 101.9 95.7 90.6 143.0
25000 79.3 82.5 82.9 83.5 86.1 89.2 91.2 91.4 95.5 97.5 98.5 93.4 142.3
31500 74.7 78.6 78.6 79.7 81.9 85.8 86.9 87.9 91.6 94.6 94.8 89.1 141.9
40000 70.0 73.2 73.9 75.9 78.3 79.1 83.9 88.4 90.4 93.3 84.9 76.8 142.7
50000 65.8 69.5 70.7 73.5 77.2 78.3 83.9 88.6 90.3 80.4 70.8 143.9
63000 60.6 66.7 66.7 69.4 72.5 73.6 74.5 80.3 86.1 88.8 75.8 65.4 146.7
80000 58.1 63.7 63.7 66.7 67.6 67.6 75.8 82.4 85.0 68.7 55.1 149.4

GASPL 106.4 108.3 107.3 108.2 109.2 111.3 113.0 115.8 120.3 126.9 129.5 124.8 120.5 163.8
PWL 119.5 121.3 120.7 121.6 122.7 124.4 126.1 128.9 133.0 138.9 140.9 135.0 128.8
PNLT 119.5 121.3 120.7 121.6 122.7 124.4 126.1 128.9 133.0 138.9 140.9 135.0 128.8
DBA 106.4 108.1 107.2 108.0 108.9 110.8 112.6 115.4 120.1 126.8 129.3 123.0 115.6

NASA SHOCK CELL/ANNULAR C-D FLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH039 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CONFID = 4 MODEL = 4
IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 79.00 MIKE HT = 29.60 RELHUM = 47.1 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFID = ARC NBFR = 400. FPS

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2289.3 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2289.3 FPS AE8 = 25.3 SQ IN
CORR FAN SPEED = RPM

ORIGINAL PAGE 3
OF FOUR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-0402 X0402F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

ORIGINAL PAGE 13
OF POOR QUALITY

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1302 | 91.7 | 93.9 | 91.8 | 91.3 | 91.0 | 93.0 | 92.8 | 93.6 | 105.3 | 111.4 | 113.2 | 114.6 | 112.4 | 148.6 |
| 250 | 91.7 | 93.9 | 91.8 | 91.3 | 91.0 | 93.0 | 92.8 | 93.6 | 105.3 | 111.4 | 113.2 | 114.6 | 112.4 | 148.6 |
| 315 | 91.7 | 93.9 | 91.8 | 91.3 | 91.0 | 93.0 | 92.8 | 93.6 | 105.3 | 111.4 | 113.2 | 114.6 | 112.4 | 148.6 |
| 400 | 92.2 | 93.9 | 91.5 | 90.9 | 92.6 | 94.4 | 95.7 | 98.7 | 104.6 | 112.0 | 115.0 | 111.1 | 149.5 | |
| 500 | 94.7 | 95.2 | 93.3 | 92.6 | 94.0 | 95.1 | 96.1 | 98.9 | 105.4 | 114.3 | 117.1 | 115.2 | 151.0 | |
| 630 | 94.4 | 95.6 | 94.5 | 94.2 | 95.2 | 95.5 | 97.7 | 99.8 | 105.4 | 114.1 | 117.9 | 114.9 | 151.2 | |
| 800 | 95.7 | 97.0 | 95.6 | 94.9 | 96.2 | 97.3 | 97.2 | 99.5 | 106.2 | 115.3 | 119.3 | 115.7 | 152.5 | |
| 1000 | 98.4 | 97.2 | 96.3 | 95.6 | 97.1 | 97.9 | 98.6 | 100.4 | 107.1 | 115.4 | 119.7 | 115.8 | 152.7 | |
| 1250 | 99.4 | 99.8 | 97.7 | 97.3 | 100.3 | 99.8 | 99.8 | 101.4 | 108.5 | 114.9 | 119.4 | 114.2 | 152.6 | |
| 1500 | 99.9 | 103.7 | 100.6 | 100.5 | 99.7 | 100.8 | 102.1 | 102.8 | 109.4 | 116.3 | 119.1 | 114.4 | 153.0 | |
| 2000 | 102.6 | 101.0 | 100.6 | 99.8 | 100.6 | 101.1 | 103.0 | 109.3 | 115.8 | 117.7 | 114.0 | 114.0 | 152.2 | |
| 2500 | 105.2 | 105.6 | 102.1 | 99.7 | 100.9 | 101.8 | 103.5 | 109.2 | 114.5 | 117.5 | 112.5 | 112.5 | 151.8 | |
| 3150 | 102.8 | 104.1 | 103.2 | 103.2 | 103.0 | 102.5 | 103.8 | 110.2 | 114.2 | 115.3 | 111.7 | 112.1 | 151.1 | |
| 4000 | 103.3 | 104.0 | 102.2 | 103.0 | 102.3 | 103.4 | 103.7 | 105.3 | 109.6 | 113.0 | 114.0 | 109.9 | 150.3 | |
| 5000 | 101.5 | 102.5 | 101.5 | 101.5 | 101.5 | 102.7 | 103.6 | 104.8 | 109.0 | 112.3 | 113.2 | 109.3 | 149.8 | |
| 6300 | 99.6 | 101.2 | 99.9 | 100.6 | 100.9 | 102.4 | 104.5 | 107.9 | 111.3 | 111.2 | 108.3 | 109.3 | 148.8 | |
| 8000 | 99.9 | 101.1 | 99.2 | 99.7 | 99.6 | 101.8 | 102.0 | 103.6 | 107.3 | 110.2 | 110.5 | 107.7 | 148.5 | |
| 10000 | 98.6 | 100.3 | 98.8 | 98.8 | 101.0 | 101.2 | 103.1 | 106.0 | 108.6 | 109.5 | 106.8 | 108.0 | 147.9 | |
| 12500 | 97.4 | 98.7 | 97.8 | 98.5 | 98.2 | 99.7 | 99.5 | 100.7 | 104.4 | 106.7 | 107.1 | 105.6 | 147.1 | |
| 15000 | 95.2 | 96.0 | 96.1 | 96.1 | 96.1 | 97.5 | 97.6 | 99.5 | 101.4 | 103.6 | 105.7 | 102.9 | 146.2 | |
| 20000 | 94.7 | 95.8 | 95.1 | 94.4 | 93.5 | 94.7 | 94.9 | 96.3 | 99.0 | 100.9 | 102.6 | 100.9 | 145.3 | |
| 25000 | 91.9 | 92.2 | 91.6 | 90.7 | 92.2 | 92.8 | 91.8 | 95.8 | 98.5 | 99.3 | 97.1 | 97.1 | 144.5 | |
| 31500 | 86.6 | 88.5 | 87.6 | 86.6 | 86.5 | 86.8 | 86.5 | 88.2 | 93.2 | 94.8 | 96.3 | 93.2 | 144.6 | |
| 40000 | 81.2 | 83.8 | 82.4 | 81.9 | 82.9 | 84.6 | 84.0 | 84.5 | 88.8 | 93.3 | 95.1 | 88.2 | 145.1 | |
| 50000 | 76.1 | 78.0 | 77.7 | 78.1 | 78.2 | 79.0 | 79.0 | 86.2 | 91.6 | 94.5 | 84.5 | 81.1 | 147.4 | |
| 63000 | 70.9 | 73.4 | 71.6 | 74.0 | 75.5 | 75.0 | 74.5 | 83.2 | 89.3 | 92.2 | 79.0 | 72.3 | 150.0 | |
| 80000 | 64.3 | 69.1 | 64.6 | 66.2 | 67.2 | 68.5 | 69.0 | 66.6 | 73.4 | 79.5 | 82.4 | 69.1 | 147.4 | |
| 80000 | 64.3 | 69.1 | 64.6 | 66.2 | 67.2 | 68.5 | 69.0 | 66.6 | 73.4 | 79.5 | 82.4 | 69.1 | 147.4 | |
| DBA | 186.6 | 190.5 | 187.1 | 188.1 | 189.4 | 190.8 | 190.9 | 189.4 | 196.8 | 202.8 | 205.7 | 193.0 | 187.3 | |
| PWL | 125.7 | 127.5 | 124.8 | 124.7 | 124.9 | 125.6 | 125.9 | 127.6 | 133.5 | 137.7 | 139.9 | 136.2 | 135.8 | |
| PWL | 125.7 | 127.5 | 124.8 | 124.7 | 124.9 | 125.6 | 125.9 | 127.6 | 133.5 | 137.7 | 139.9 | 136.2 | 135.8 | |
| GASPL | 112.7 | 113.6 | 111.9 | 111.7 | 112.0 | 113.0 | 113.3 | 114.9 | 120.2 | 126.0 | 128.8 | 125.6 | 124.2 | |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES
NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NA3-22514

VEHICLE = ADH039 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 400. FPS
WIND DIR = 180 DEG WIND VEL = 0 MPH PWL AREA = FULL SPHERE EXT DIST = 40.0 FT EXT CONFIG = ARC PAMB HG = 29.60 RELHUM = 47.1 PCT

FNINI = LBS XNL RPM XNH RPM XNH RPM V6 = 2289.3 FPS AEB = 25.3 SQ IN
FNAMB = LBS XNL RPM XNH RPM V18 = 2289.3 FPS AEB = 0. SQ IN

TEST PT NO = 0402 NC = 861 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

06/18/82 17.409 PAGE 4

IDENTIFICATION - 81F-400-0402 X04021

ANGLES MEASURED FROM INLET, DEGREES

[illegible]

ORIGINAL PAGE 18
OF POOR QUALITY

| | 12500 | 16000 | 20000 | 25000 | 31500 | 40000 | 50000 | 63000 | 80000 | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| GASPL | 88.7 | 91.4 | 90.9 | 91.5 | 92.3 | 93.4 | 93.7 | 94.8 | 99.4 | 104.5 | 105.8 | 99.9 | 94.1 | 181.2 |
| PNL | 94.3 | 97.3 | 97.4 | 98.3 | 99.0 | 100.3 | 100.3 | 101.2 | 105.0 | 108.3 | 108.5 | 101.8 | 96.4 | |
| PNLT | 94.3 | 97.9 | 98.0 | 98.8 | 99.0 | 100.3 | 100.3 | 101.2 | 105.6 | 108.9 | 108.5 | 101.8 | 96.4 | |
| DBA | 83.7 | 86.9 | 86.9 | 88.1 | 88.7 | 90.1 | 90.1 | 91.1 | 94.3 | 96.7 | 96.2 | 89.5 | 84.7 | |

MODEL AREA = 163.1 SQ CM (25.3 SQ IN)
SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)
DIAMETER RATIO = 7.442
FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

[illegible]

TEST PT NO = 0402 NC = 861 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

ANGLES MEASURED FROM INLET, DEGREES

IDENTIFICATION - MODEL 81F-ZER-0403 X0403C
BACKGROUND 81F-400-0400

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 85.4 84.7 83.0 82.0 82.9 87.2 86.4 87.5 89.2 95.6 95.9 95.6 132.6
PWL

63 88.0 87.8 88.3 88.3 90.2 93.3 91.7 91.3 95.0 99.9 100.0 98.7 99.8 136.9

80 90.8 95.3 90.3 91.1 92.0 95.6 95.2 94.6 95.8 95.9 101.9 101.9 137.7

100 90.8 96.3 92.4 93.9 94.5 96.6 96.7 98.2 96.6 98.9 100.3 103.5 140.1

125 87.9 90.6 92.2 93.9 95.0 97.2 97.5 96.7 98.2 101.2 107.1 108.5 143.4

150 86.8 87.1 89.6 90.1 92.0 95.3 94.5 94.9 98.1 102.7 107.3 109.5 144.0

160 88.5 88.1 88.8 90.1 92.0 95.3 95.5 97.4 102.1 104.9 108.8 112.7 146.6

170 88.0 88.0 92.3 91.6 93.1 93.7 95.3 97.7 100.1 103.8 110.7 114.8 150.5

180 89.1 91.6 90.9 92.4 94.3 97.4 98.5 101.9 107.6 113.7 116.6 117.8 152.1

190 92.6 93.6 93.9 95.4 96.0 99.4 101.5 107.2 115.1 120.7 122.1 121.0 157.0

200 92.8 93.5 94.8 95.9 98.5 100.6 104.8 110.3 118.3 120.7 119.4 116.8 155.0

210 92.8 95.3 94.6 95.7 97.0 99.4 102.0 105.9 111.9 120.9 122.8 120.7 157.1

220 96.9 95.7 96.0 97.3 98.4 100.5 102.6 105.8 112.3 121.8 123.2 120.4 157.4

230 101.2 101.7 100.3 100.0 99.9 102.0 103.6 106.8 113.0 121.3 123.2 120.1 157.3

240 99.0 104.8 102.5 103.1 103.4 103.5 104.7 108.3 113.5 121.9 123.2 119.7 157.5

250 100.7 100.3 101.3 101.6 101.9 103.5 106.8 108.9 113.8 121.5 123.4 117.9 157.2

260 102.4 102.8 101.5 100.9 103.8 105.4 109.4 114.2 121.7 120.8 116.3 112.1 156.2

270 101.1 102.2 101.5 102.7 102.6 104.2 106.3 109.2 113.4 120.8 119.2 114.2 155.1

280 100.5 101.8 100.6 101.6 103.2 105.0 105.9 109.3 113.4 119.9 118.7 113.2 154.6

290 98.5 100.0 99.8 101.0 102.1 104.8 106.5 110.0 113.4 118.2 116.5 112.2 153.4

300 97.4 99.0 98.3 100.0 101.5 103.9 106.1 109.4 112.1 117.1 115.3 110.4 152.4

310 97.1 99.6 98.5 100.0 101.2 103.6 105.6 108.8 111.3 115.7 114.5 109.8 151.7

320 95.0 97.9 97.9 99.0 100.5 103.4 104.9 107.9 110.4 114.7 112.6 108.4 151.0

330 94.1 96.0 97.1 98.3 100.3 102.8 103.7 107.0 109.2 113.5 112.0 107.4 150.5

340 92.2 94.4 95.4 96.4 98.9 101.7 102.9 105.2 107.5 111.8 110.3 105.4 149.7

350 89.4 92.6 93.4 93.7 96.3 98.7 100.6 103.4 105.8 109.4 108.0 103.3 148.8

360 87.0 89.5 89.5 91.7 93.5 96.2 100.2 102.8 107.4 106.1 101.7 97.1 148.3

370 83.0 86.6 86.6 88.4 91.3 94.8 95.9 97.1 99.9 105.1 100.3 92.1 148.6

380 78.0 82.6 82.6 84.0 87.0 90.6 92.0 94.2 97.9 102.6 96.6 88.2 148.8

390 73.1 77.9 79.0 79.6 83.3 87.1 88.5 90.7 95.6 99.5 99.3 92.9 149.8

4000 63.6 68.8 69.1 72.0 74.1 77.3 79.8 82.7 86.7 90.0 95.9 97.0 155.6

5000 68.9 73.0 73.4 75.6 78.3 82.3 84.1 86.3 91.6 98.9 97.5 90.0 152.3

6000 59.2 65.6 65.0 65.7 68.6 72.1 74.6 77.5 86.7 94.3 92.7 81.6 159.4

8000 110.7 112.4 111.6 112.4 113.4 115.5 117.2 120.4 124.9 131.9 132.7 130.0 127.6 168.8

9000 123.7 125.2 124.4 125.4 126.5 128.6 130.2 133.5 137.4 143.8 143.6 139.8 136.9

10000 124.8 127.2 124.4 125.4 126.5 128.6 130.2 134.1 138.4 144.5 144.1 139.8 136.9

110.9 112.4 111.5 112.3 113.0 115.0 116.9 120.1 124.5 131.7 132.2 128.6 125.5

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICLE = ADH023 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLVEL = 0. FPS
TAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 70.00 PAMB HG = 29.70 RELHUM = 57.9 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR

FNINI = LBS XNL RPM XNHR = RPM V8 = 2335.4 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNLR = RPM V18 = 2335.4 FPS AE18 = 25.3 SQ IN
CORR FAN SPEED = RPM

ORIGINAL PAGE 13
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-0403 X0403F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

50 65.4 84.7 83.0 82.0 82.9 87.2 86.4 87.5 89.2 95.6 95.9 95.6 96.3 132.6

63 88.0 87.8 88.3 88.3 90.2 93.3 91.7 91.3 95.0 99.9 100.0 98.7 99.8 136.9

80 90.8 90.3 90.3 91.1 92.0 95.6 95.6 95.6 98.2 94.6 98.5 99.5 101.9 137.7

100 90.8 96.3 92.4 93.9 94.5 96.6 96.7 98.2 96.6 98.9 100.3 103.5 105.4 140.1

125 87.9 90.6 92.2 93.9 95.0 97.2 97.5 98.2 98.2 101.2 107.1 108.5 109.7 143.4

150 86.8 87.1 89.6 90.1 90.0 92.3 94.5 94.9 98.1 102.7 107.3 109.5 111.9 144.0

200 88.5 88.1 88.8 90.1 92.0 95.3 95.5 97.4 102.1 104.9 108.8 112.7 114.6 146.6

250 88.0 92.3 91.6 93.1 93.7 95.3 97.7 100.1 103.8 110.7 114.8 116.7 116.6 150.5

315 89.1 91.6 90.9 92.4 94.3 97.4 98.5 101.9 107.6 113.7 116.6 117.8 116.9 152.1

400 92.6 93.6 93.9 95.4 96.0 99.4 101.5 107.2 115.1 120.7 122.1 121.0 118.4 157.0

500 90.9 93.5 93.5 94.8 95.9 98.5 100.6 104.8 110.3 118.3 120.7 119.4 116.8 155.0

630 92.8 95.3 94.6 95.7 97.0 99.4 102.0 105.9 111.9 120.9 122.8 120.7 118.9 157.1

800 96.9 95.7 96.0 97.3 98.4 100.5 102.6 105.8 112.3 120.4 123.2 120.4 117.0 157.4

1000 101.2 101.7 100.0 99.9 102.0 103.6 106.8 113.0 121.3 123.2 120.1 117.3 157.3

1250 104.8 102.5 103.1 103.4 103.5 104.7 108.3 113.5 121.9 123.2 119.7 115.7 157.5

1600 100.7 100.3 101.3 101.6 101.9 103.5 106.8 108.9 113.8 121.5 123.4 117.9 113.9 157.2

2000 102.4 102.8 101.5 100.9 103.8 105.4 109.1 114.2 121.7 120.8 116.3 112.1 156.2

2500 101.1 102.2 101.5 102.7 102.6 104.2 106.3 109.2 113.4 120.8 119.2 114.2 110.7 155.1

3150 100.5 101.8 100.6 101.6 103.2 105.0 109.9 113.4 119.9 118.7 113.2 108.5 154.6

4000 98.5 100.0 99.8 101.0 102.1 104.6 106.5 110.4 118.2 116.5 110.4 106.7 153.4

5000 97.4 99.0 98.3 100.0 101.5 103.9 106.1 109.4 112.1 115.3 110.4 106.7 152.4

6300 97.1 99.6 98.5 100.0 101.2 103.6 105.6 108.8 111.3 115.7 114.5 109.8 151.7

8000 95.0 97.9 97.9 99.0 100.5 103.4 104.9 107.9 110.4 114.7 112.6 108.4 151.0

10000 94.1 96.0 97.1 98.3 100.3 102.8 103.7 107.0 110.2 113.5 112.0 107.4 150.5

12500 92.2 94.4 95.4 96.4 98.9 101.7 102.9 105.2 107.5 110.8 110.3 105.4 149.7

16000 89.4 92.6 93.4 93.7 96.3 98.7 100.6 103.4 105.8 109.4 108.0 103.3 148.8

20000 87.0 89.5 89.9 91.7 93.5 96.2 98.1 100.2 102.8 107.4 106.1 101.7 148.3

25000 83.0 86.6 86.6 88.4 91.3 94.8 95.9 97.1 99.9 105.1 105.0 100.3 148.6

31500 78.0 82.6 82.6 84.0 87.0 90.6 92.0 94.2 97.9 102.6 102.6 96.6 148.8

40000 73.1 77.9 79.0 79.6 83.3 87.1 88.5 90.7 95.6 99.5 99.3 92.9 149.8

50000 68.9 73.0 73.4 75.6 78.3 82.3 84.1 86.3 91.6 98.0 97.5 90.0 152.3

63000 63.6 68.8 69.1 72.0 74.1 77.3 79.8 82.7 90.0 95.9 97.0 87.0 155.6

80000 59.2 65.6 65.0 68.6 68.6 72.1 74.6 77.5 86.7 94.3 92.7 81.6 159.4

80000 59.2 65.6 65.0 68.6 68.6 72.1 74.6 77.5 86.7 94.3 92.7 81.6 159.4

80000 59.2 65.6 65.0 68.6 68.6 72.1 74.6 77.5 86.7 94.3 92.7 81.6 159.4

80000 59.2 65.6 65.0 68.6 68.6 72.1 74.6 77.5 86.7 94.3 92.7 81.6 159.4

80000 59.2 65.6 65.0 68.6 68.6 72.1 74.6 77.5 86.7 94.3 92.7 81.6 159.4

80000 59.2 65.6 65.0 68.6 68.6 72.1 74.6 77.5 86.7 94.3 92.7 81.6 159.4

80000 59.2 65.6 65.0 68.6 68.6 72.1 74.6 77.5 86.7 94.3 92.7 81.6 159.4

80000 59.2 65.6 65.0 68.6 68.6 72.1 74.6 77.5 86.7 94.3 92.7 81.6 159.4

80000 59.2 65.6 65.0 68.6 68.6 72.1 74.6 77.5 86.7 94.3 92.7 81.6 159.4

80000 59.2 65.6 65.0 68.6 68.6 72.1 74.6 77.5 86.7 94.3 92.7 81.6 159.4

80000 59.2 65.6 65.0 68.6 68.6 72.1 74.6 77.5 86.7 94.3 92.7 81.6 159.4

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-0403 X04031

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 70.6 73.1 74.5 76.7 77.7 81.2 83.2 88.5 95.7 100.2 100.1 96.8 90.9 174.4

63 68.9 73.0 74.1 76.1 77.6 80.3 82.3 86.1 90.8 97.8 98.7 95.1 89.2 172.5

80 70.7 74.8 75.2 76.9 78.7 81.2 83.7 87.2 92.4 100.4 100.7 96.4 91.2 174.5

100 74.8 75.1 76.5 80.0 82.3 84.3 87.0 92.7 101.2 101.0 96.0 89.2 174.8

125 78.9 81.0 80.7 81.2 81.4 83.7 85.2 87.9 93.4 100.6 100.9 95.6 89.2 174.7

160 76.5 83.9 82.8 84.1 84.8 85.1 86.1 89.3 93.8 101.0 100.8 94.8 87.2 174.9

200 78.0 79.2 81.4 82.4 83.2 85.0 88.1 89.8 93.9 100.4 100.6 92.8 85.0 174.6

250 79.4 81.5 81.3 82.0 85.0 86.5 89.7 94.1 100.3 97.7 90.8 82.5 173.6

315 77.7 80.5 81.0 83.1 83.4 85.2 87.1 89.6 92.9 99.1 95.7 88.1 80.3 172.6

400 76.5 79.7 79.8 81.6 83.7 85.7 86.4 89.4 92.6 97.8 94.8 86.4 77.2 172.0

500 74.0 77.5 78.6 80.8 82.3 85.2 86.7 89.8 92.3 95.7 84.7 76.0 170.8

630 72.5 76.1 76.8 79.5 81.4 84.0 86.0 88.8 90.7 94.2 90.4 82.3 73.3 169.8

800 71.7 76.3 76.7 79.2 80.9 83.5 85.3 88.0 89.6 92.5 89.1 81.0 71.3 169.2

1000 69.1 74.3 75.9 78.0 80.1 83.1 84.5 86.9 88.4 91.2 86.7 79.0 69.0 168.4

1250 67.7 72.2 74.8 77.1 79.7 82.4 83.1 85.8 86.9 89.7 85.6 77.1 67.1 168.0

1600 64.9 69.9 72.7 74.9 78.1 81.0 82.0 83.7 84.8 87.3 83.1 73.8 62.2 167.1

2000 61.2 67.6 70.3 71.9 75.2 77.9 79.6 81.7 82.7 84.4 79.8 70.0 57.5 166.3

2500 57.0 63.2 66.0 69.3 71.9 74.9 76.5 77.8 78.9 81.1 76.1 65.6 49.6 165.7

3150 49.6 57.9 60.8 64.5 68.3 72.2 72.9 73.1 74.1 76.4 71.6 59.2 36.2 166.0

4000 38.4 49.1 53.0 56.8 61.0 65.0 66.0 67.0 68.3 69.2 62.4 46.7 17.8 166.3

5000 23.7 36.8 43.2 47.0 52.4 56.8 57.6 58.0 59.7 58.5 49.9 29.2 167.3

6300 1.7 17.7 25.5 32.1 37.3 42.1 43.1 42.9 43.6 43.6 29.2 173.0 176.8

8000 9.3 15.0 19.3 20.7 20.7 20.0 20.8 15.8

10000 173.0

12500 169.7

15000 167.3

176.8

186.0

98.0 104.5 109.8 104.8 104.4 110.5 109.8 104.5 109.8 104.8 104.5 109.8 104.8 97.0

97.0 104.8 109.8 104.8 104.4 110.5 109.8 104.8 104.4 110.5 109.8 104.8 104.8 97.0

97.0 104.8 109.8 104.8 104.4 110.5 109.8 104.8 104.4 110.5 109.8 104.8 104.8 97.0

97.0 104.8 109.8 104.8 104.4 110.5 109.8 104.8 104.4 110.5 109.8 104.8 104.8 97.0

97.0 104.8 109.8 104.8 104.4 110.5 109.8 104.8 104.4 110.5 109.8 104.8 104.8 97.0

97.0 104.8 109.8 104.8 104.4 110.5 109.8 104.8 104.4 110.5 109.8 104.8 104.8 97.0

97.0 104.8 109.8 104.8 104.4 110.5 109.8 104.8 104.4 110.5 109.8 104.8 104.8 97.0

97.0 104.8 109.8 104.8 104.4 110.5 109.8 104.8 104.4 110.5 109.8 104.8 104.8 97.0

97.0 104.8 109.8 104.8 104.4 110.5 109.8 104.8 104.4 110.5 109.8 104.8 104.8 97.0

97.0 104.8 109.8 104.8 104.4 110.5 109.8 104.8 104.4 110.5 109.8 104.8 104.8 97.0

97.0 104.8 109.8 104.8 104.4 110.5 109.8 104.8 104.4 110.5 109.8 104.8 104.8 97.0

97.0 104.8 109.8 104.8 104.4 110.5 109.8 104.8 104.4 110.5 109.8 104.8 104.8 97.0

97.0 104.8 109.8 104.8 104.4 110.5 109.8 104.8 104.4 110.5 109.8 104.8 104.8 97.0

ORIGINAL PAGE 13
OF POOR QUALITY

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 50 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | PWL |
|-------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 87.7 | 86.5 | 82.2 | 82.0 | 82.1 | 83.2 | 83.1 | 87.0 | 88.2 | 87.8 | 96.7 | 93.4 | 99.0 | 131.9 |
| 63 | 89.0 | 89.0 | 88.5 | 87.3 | 88.9 | 90.3 | 88.9 | 90.8 | 94.0 | 92.6 | 99.5 | 94.4 | 100.1 | 135.0 |
| 80 | 91.0 | 95.8 | 90.3 | 91.1 | 92.0 | 94.6 | 94.5 | 94.1 | 95.3 | 93.9 | 97.0 | 98.5 | 102.1 | 137.1 |
| 100 | 90.8 | 95.6 | 90.6 | 91.9 | 93.2 | 94.4 | 95.2 | 95.1 | 95.9 | 98.1 | 102.5 | 104.7 | 138.6 | |
| 125 | 87.4 | 90.4 | 90.7 | 93.8 | 95.9 | 98.5 | 98.9 | 97.7 | 104.6 | 106.8 | 109.0 | 141.7 | | |
| 160 | 85.8 | 84.1 | 87.6 | 88.1 | 88.5 | 90.1 | 91.6 | 94.6 | 99.2 | 104.8 | 107.7 | 110.6 | 142.1 | |
| 200 | 85.5 | 85.8 | 86.3 | 86.4 | 88.7 | 91.1 | 92.5 | 94.4 | 98.6 | 100.2 | 105.3 | 110.5 | 112.6 | 144.0 |
| 250 | 84.0 | 87.8 | 88.9 | 89.9 | 90.2 | 91.6 | 93.7 | 96.4 | 99.6 | 105.2 | 114.2 | 119.1 | 147.3 | |
| 315 | 85.1 | 87.6 | 88.4 | 89.5 | 93.4 | 89.5 | 93.4 | 95.0 | 97.2 | 101.6 | 109.2 | 115.3 | 148.5 | |
| 400 | 87.1 | 88.9 | 89.4 | 90.8 | 90.8 | 94.6 | 97.5 | 101.2 | 107.6 | 114.7 | 117.1 | 122.7 | 151.7 | |
| 500 | 87.2 | 90.2 | 91.8 | 92.9 | 95.3 | 97.6 | 101.5 | 107.8 | 115.3 | 118.0 | 116.6 | 109.8 | 152.0 | |
| 630 | 89.1 | 91.4 | 92.2 | 93.5 | 96.4 | 98.9 | 102.9 | 108.0 | 117.3 | 120.5 | 114.6 | 108.4 | 153.7 | |
| 800 | 91.2 | 91.8 | 93.3 | 94.9 | 96.8 | 98.9 | 102.5 | 108.0 | 117.3 | 120.5 | 114.6 | 108.4 | 153.4 | |
| 1000 | 94.7 | 95.8 | 95.0 | 95.3 | 96.4 | 98.0 | 99.9 | 103.6 | 108.5 | 116.1 | 120.7 | 113.7 | 153.7 | |
| 1250 | 94.0 | 99.3 | 97.3 | 97.8 | 98.9 | 99.5 | 103.4 | 109.8 | 118.1 | 121.4 | 113.4 | 104.7 | 154.2 | |
| 1600 | 97.0 | 95.8 | 97.3 | 97.6 | 97.9 | 100.6 | 103.3 | 105.5 | 110.6 | 118.0 | 121.4 | 113.4 | 154.2 | |
| 2000 | 97.4 | 98.8 | 98.0 | 97.4 | 98.0 | 99.8 | 102.5 | 105.4 | 111.2 | 118.9 | 119.8 | 112.4 | 153.8 | |
| 2500 | 96.2 | 97.5 | 97.5 | 99.0 | 98.8 | 100.2 | 102.5 | 106.0 | 110.6 | 117.8 | 118.4 | 111.2 | 152.8 | |
| 3150 | 94.8 | 96.6 | 95.8 | 97.6 | 98.9 | 101.8 | 102.1 | 105.6 | 110.4 | 114.7 | 115.0 | 108.4 | 150.4 | |
| 4000 | 94.2 | 95.3 | 95.0 | 96.5 | 97.9 | 100.8 | 103.2 | 106.5 | 110.2 | 114.7 | 115.0 | 108.4 | 150.4 | |
| 5000 | 93.4 | 94.8 | 94.5 | 95.5 | 97.2 | 99.7 | 102.3 | 105.6 | 109.6 | 114.1 | 113.8 | 106.6 | 149.7 | |
| 6300 | 93.1 | 95.3 | 94.5 | 95.5 | 97.4 | 98.9 | 102.1 | 105.6 | 113.0 | 113.3 | 108.3 | 106.0 | 149.1 | |
| 8000 | 92.0 | 94.4 | 93.9 | 94.8 | 96.1 | 98.9 | 101.2 | 104.1 | 107.6 | 111.7 | 110.6 | 104.2 | 147.9 | |
| 10000 | 91.1 | 92.5 | 92.8 | 94.6 | 95.8 | 98.8 | 100.4 | 103.3 | 106.9 | 110.0 | 110.0 | 103.9 | 147.5 | |
| 12500 | 88.9 | 90.4 | 91.2 | 92.9 | 94.4 | 97.2 | 99.4 | 100.9 | 104.8 | 108.5 | 101.4 | 95.5 | 146.5 | |
| 1 | | | | | | | | | | | | | | |

IDENTIFICATION - 81F-400-0404 X0404F

ANGLES MEASURED FROM INLET, DEGREES

7M2

FREQ

53

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ORIGINAL PAGE IS
OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-0405 X0405C
BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | PWL |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 86.4 | 85.5 | 83.2 | 82.5 | 83.4 | 87.5 | 86.9 | 87.8 | 89.7 | 96.3 | 96.4 | 96.8 | 133.2 |
| 63 | 88.7 | 88.5 | 86.1 | 85.7 | 86.8 | 93.5 | 92.2 | 91.1 | 94.8 | 100.1 | 99.2 | 98.4 | 136.9 |
| 80 | 91.3 | 90.6 | 88.1 | 87.4 | 89.0 | 96.0 | 94.9 | 96.8 | 96.2 | 98.8 | 100.7 | 102.4 | 138.3 |
| 100 | 91.1 | 90.3 | 87.3 | 86.2 | 87.7 | 94.7 | 93.4 | 95.8 | 97.1 | 99.4 | 100.3 | 104.3 | 140.5 |
| 125 | 87.9 | 87.1 | 84.2 | 83.5 | 85.5 | 92.7 | 91.4 | 93.7 | 94.8 | 97.6 | 98.8 | 103.7 | 143.7 |
| 160 | 87.0 | 86.3 | 83.3 | 82.6 | 84.6 | 92.6 | 91.3 | 93.6 | 94.7 | 97.5 | 98.6 | 103.5 | 144.5 |
| 200 | 86.3 | 85.6 | 82.6 | 81.9 | 83.9 | 91.6 | 90.3 | 92.6 | 93.7 | 96.5 | 97.6 | 102.5 | 146.9 |
| 250 | 86.3 | 85.6 | 82.6 | 81.9 | 83.9 | 91.6 | 90.3 | 92.6 | 93.7 | 96.5 | 97.6 | 102.5 | 150.9 |
| 315 | 89.3 | 88.6 | 85.6 | 84.9 | 86.9 | 94.8 | 93.5 | 95.8 | 96.9 | 99.7 | 100.8 | 105.7 | 152.4 |
| 400 | 91.8 | 91.1 | 88.1 | 87.4 | 89.4 | 96.6 | 95.3 | 97.6 | 98.7 | 101.5 | 102.6 | 107.5 | 156.8 |
| 500 | 90.9 | 90.2 | 87.2 | 86.5 | 88.5 | 95.8 | 94.5 | 96.8 | 97.9 | 100.7 | 101.8 | 106.7 | 155.5 |
| 630 | 93.1 | 92.4 | 89.4 | 88.7 | 90.7 | 97.9 | 96.6 | 98.9 | 100.0 | 102.8 | 103.9 | 108.8 | 157.1 |
| 800 | 96.9 | 96.2 | 93.2 | 92.5 | 94.5 | 101.8 | 100.5 | 102.8 | 103.9 | 106.7 | 107.8 | 112.7 | 157.4 |
| 1000 | 101.5 | 100.8 | 97.8 | 97.1 | 99.1 | 106.0 | 104.7 | 106.9 | 108.0 | 110.8 | 111.9 | 116.8 | 157.5 |
| 1250 | 100.0 | 99.3 | 96.3 | 95.6 | 97.6 | 104.5 | 103.2 | 105.4 | 106.5 | 109.3 | 110.4 | 115.3 | 157.3 |
| 1600 | 103.7 | 103.0 | 100.0 | 99.3 | 101.3 | 108.2 | 106.9 | 109.1 | 110.2 | 113.0 | 114.1 | 119.0 | 157.3 |
| 2000 | 105.2 | 104.5 | 101.5 | 100.8 | 102.8 | 109.7 | 108.4 | 110.6 | 111.7 | 114.5 | 115.6 | 120.5 | 156.6 |
| 2500 | 103.4 | 102.7 | 99.7 | 99.0 | 101.0 | 107.9 | 106.6 | 108.8 | 109.9 | 112.7 | 113.8 | 118.7 | 155.7 |
| 3150 | 101.5 | 100.8 | 97.8 | 97.1 | 99.1 | 106.0 | 104.7 | 106.9 | 108.0 | 110.8 | 111.9 | 116.8 | 154.9 |
| 4000 | 100.5 | 99.8 | 96.8 | 96.1 | 98.1 | 105.0 | 103.7 | 105.9 | 107.0 | 109.8 | 110.9 | 115.8 | 153.0 |
| 5000 | 98.7 | 98.0 | 95.0 | 94.3 | 96.3 | 103.2 | 101.9 | 104.1 | 105.2 | 108.0 | 109.1 | 114.0 | 153.0 |
| 6300 | 97.3 | 96.6 | 93.6 | 92.9 | 94.9 | 101.8 | 100.5 | 102.7 | 103.8 | 106.6 | 107.7 | 112.6 | 152.5 |
| 8000 | 95.5 | 94.8 | 91.8 | 91.1 | 93.1 | 99.8 | 98.5 | 100.7 | 101.8 | 104.6 | 105.7 | 110.6 | 151.0 |
| 10000 | 94.8 | 94.1 | 91.1 | 90.4 | 92.4 | 99.0 | 97.7 | 99.9 | 101.0 | 103.8 | 104.9 | 109.8 | 151.0 |
| 12500 | 92.9 | 92.2 | 89.2 | 88.5 | 90.5 | 97.2 | 95.9 | 98.1 | 99.2 | 102.0 | 103.1 | 108.0 | 150.3 |
| 16000 | 89.9 | 89.2 | 86.2 | 85.5 | 87.5 | 94.0 | 92.7 | 94.9 | 96.0 | 98.8 | 100.0 | 104.9 | 149.5 |
| 20000 | 87.5 | 86.8 | 83.8 | 83.1 | 85.1 | 91.6 | 90.3 | 92.5 | 93.6 | 96.4 | 97.6 | 102.5 | 148.7 |
| 25000 | 85.2 | 84.5 | 81.5 | 80.8 | 82.8 | 89.3 | 88.0 | 90.2 | 91.3 | 94.1 | 95.3 | 100.2 | 149.0 |
| 31500 | 78.5 | 77.8 | 74.8 | 74.1 | 76.1 | 82.6 | 81.3 | 83.5 | 84.6 | 87.4 | 88.6 | 93.5 | 149.8 |
| 40000 | 74.3 | 73.6 | 70.6 | 69.9 | 71.9 | 78.0 | 76.7 | 78.9 | 80.0 | 82.8 | 84.0 | 88.9 | 151.6 |
| 50000 | 69.7 | 69.0 | 66.0 | 65.3 | 67.3 | 73.4 | 72.1 | 74.3 | 75.4 | 78.2 | 79.4 | 84.3 | 153.7 |
| 63000 | 63.9 | 63.2 | 60.2 | 59.5 | 61.5 | 67.6 | 66.3 | 68.5 | 69.6 | 72.4 | 73.6 | 78.5 | 156.6 |
| 80000 | 58.7 | 58.0 | 55.0 | 54.3 | 56.3 | 62.4 | 61.1 | 63.3 | 64.4 | 67.2 | 68.4 | 73.3 | 160.1 |
| QASPL | 112.2 | 111.5 | 108.5 | 107.8 | 109.8 | 116.3 | 115.0 | 117.8 | 120.7 | 125.6 | 132.3 | 139.0 | 169.2 |
| PNL | 125.1 | 124.4 | 121.4 | 120.7 | 122.7 | 129.6 | 128.3 | 131.2 | 134.3 | 139.3 | 144.4 | 149.5 | 169.2 |
| PWLT | 125.1 | 124.4 | 121.4 | 120.7 | 122.7 | 129.6 | 128.3 | 131.2 | 134.3 | 139.3 | 144.4 | 149.5 | 169.2 |
| DBA | 112.7 | 112.0 | 109.0 | 108.3 | 110.3 | 116.8 | 115.5 | 118.3 | 121.2 | 126.1 | 132.8 | 139.5 | 169.2 |

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICLE = ADH024 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLVEL = 0 FPS
 1APLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 70.00 PAMB HG = 29.60 RELHUM = 57.9 PCT
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR

FINI = LBS XNL RPM XNH RPM V6 = 2378.9 FPS AE8 = 25.3 SQ IN
 FNRM = LBS XNL RPM XNH RPM V18 = 2378.9 FPS AE18 = 0. SQ IN
 CORR FAN SPEED = RPM

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OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-0405 X0405F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

FREQ 50 60 70 80 90 100 110 120 130 140 150 160

50 60 70 80 90 100 110 120 130 140 150 160

50 60 70 80 90 100 110 120 130 140 150 160

50 60 70 80 90 100 110 120 130 140 150 160

50 60 70 80 90 100 110 120 130 140 150 160

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NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514
VEHICL = ADH024 TEST DATE = 08-19-81
IAPLHA = SB59 DEG WIND VEL = NO
MIND DIR = 0.0 FT
FNNI = LBS XNL RPM XNHR RPM XNHR RPM V6 = 2378.9 FPS AE6 = 25.3 SQ IN
FNRAMB = LBS XNL RPM XNHR RPM XNHR RPM V6 = 2378.9 FPS AE6 = 25.3 SQ IN
RNP1 = 81F-ZER-0405 TAPE = X0405F TEST PT NO = 0405 NC = 861 CORR FAN SPEED = RPM

HONEYWELL PAGE PRINTING SYSTEM- P1185-02

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-0406 X0406F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREQ 50 60 80 100 125 160

PWL

ORIGINAL PAGE IS
OF POOR QUALITY

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 200 | 92.4 | 94.6 | 93.2 | 92.9 | 92.3 | 91.6 | 92.3 | 93.3 | 96.4 | 104.8 | 107.7 | 111.1 | 112.1 | 145.0 |
| 250 | 92.4 | 94.6 | 93.2 | 92.9 | 91.6 | 93.8 | 94.2 | 94.6 | 105.1 | 111.6 | 113.8 | 115.1 | 113.8 | 149.4 |
| 315 | 92.4 | 94.6 | 93.2 | 92.9 | 91.6 | 93.8 | 94.2 | 94.6 | 105.1 | 111.6 | 113.8 | 115.1 | 113.8 | 149.4 |
| 400 | 93.3 | 94.7 | 92.8 | 92.1 | 93.1 | 95.1 | 96.5 | 99.1 | 105.9 | 113.6 | 116.6 | 116.8 | 114.3 | 151.3 |
| 500 | 95.8 | 94.1 | 93.8 | 95.8 | 95.8 | 97.3 | 100.1 | 106.8 | 115.4 | 116.8 | 116.7 | 113.7 | 152.5 | |
| 630 | 95.1 | 96.9 | 95.2 | 95.3 | 96.2 | 97.0 | 98.3 | 101.2 | 106.8 | 116.0 | 119.3 | 116.8 | 112.8 | 152.9 |
| 800 | 97.2 | 98.3 | 96.4 | 95.9 | 97.4 | 98.3 | 98.7 | 100.3 | 107.5 | 117.4 | 120.7 | 117.3 | 115.2 | 154.1 |
| 1000 | 99.9 | 98.2 | 96.8 | 97.4 | 98.3 | 99.7 | 101.3 | 108.9 | 117.7 | 120.9 | 116.5 | 114.8 | 154.3 | |
| 1250 | 101.2 | 101.3 | 99.4 | 99.0 | 101.6 | 101.3 | 101.0 | 102.6 | 110.4 | 117.3 | 122.0 | 116.5 | 154.9 | |
| 1600 | 102.3 | 104.7 | 102.8 | 101.6 | 102.3 | 103.6 | 104.2 | 111.3 | 118.7 | 120.7 | 115.6 | 115.0 | 154.7 | |
| 2000 | 108.7 | 105.6 | 103.6 | 102.5 | 102.1 | 102.9 | 102.8 | 104.7 | 111.2 | 118.1 | 119.2 | 114.5 | 154.1 | |
| 2500 | 108.1 | 108.2 | 106.5 | 104.4 | 106.0 | 104.3 | 104.2 | 105.5 | 111.9 | 117.1 | 114.1 | 114.0 | 154.0 | |
| 3150 | 106.2 | 107.4 | 106.3 | 106.9 | 105.2 | 106.8 | 104.8 | 105.7 | 112.6 | 116.3 | 116.9 | 113.2 | 153.2 | |
| 4000 | 104.6 | 104.7 | 103.7 | 104.3 | 102.8 | 105.4 | 106.4 | 107.3 | 112.1 | 115.7 | 110.8 | 112.7 | 152.3 | |
| 5000 | 103.5 | 102.5 | 102.7 | 103.3 | 104.7 | 105.8 | 107.0 | 111.3 | 114.8 | 110.7 | 111.0 | 151.6 | | |
| 6300 | 104.4 | 104.5 | 103.1 | 102.8 | 102.4 | 104.4 | 104.8 | 106.9 | 110.3 | 113.6 | 113.2 | 109.5 | 110.7 | 151.0 |
| 8000 | 101.6 | 102.4 | 101.2 | 100.9 | 101.6 | 103.4 | 103.9 | 106.0 | 109.6 | 113.0 | 112.5 | 108.6 | 111.0 | 150.6 |
| 10000 | 102.2 | 102.8 | 101.6 | 100.9 | 101.7 | 102.6 | 102.7 | 104.7 | 108.2 | 110.7 | 111.1 | 108.9 | 149.7 | |
| 12500 | 101.5 | 101.4 | 100.5 | 100.2 | 99.8 | 101.2 | 101.6 | 102.3 | 106.6 | 109.0 | 108.8 | 105.8 | 148.8 | |
| 16000 | 99.5 | 98.8 | 98.6 | 98.0 | 97.3 | 98.2 | 99.1 | 101.6 | 103.7 | 106.2 | 107.2 | 104.2 | 148.0 | |
| 20000 | 95.7 | 96.6 | 95.6 | 95.4 | 95.1 | 96.0 | 96.5 | 97.5 | 100.7 | 103.7 | 103.9 | 101.9 | 146.8 | |
| 25000 | 92.4 | 92.2 | 91.9 | 91.7 | 91.7 | 93.7 | 94.0 | 93.6 | 98.3 | 100.5 | 102.1 | 97.8 | 146.3 | |
| 31500 | 87.6 | 87.8 | 87.3 | 87.5 | 87.5 | 89.4 | 90.8 | 96.0 | 97.8 | 100.7 | 94.4 | 93.4 | 146.7 | |
| 40000 | 82.2 | 83.8 | 82.7 | 82.9 | 84.1 | 85.9 | 86.0 | 86.7 | 92.8 | 97.8 | 99.1 | 90.2 | 148.6 | |
| 50000 | 77.1 | 78.8 | 78.5 | 78.2 | 79.4 | 81.5 | 81.2 | 81.6 | 91.5 | 97.3 | 98.8 | 86.5 | 151.9 | |
| 63000 | 72.0 | 73.4 | 71.9 | 72.7 | 75.8 | 76.6 | 77.6 | 77.6 | 93.7 | 97.0 | 81.6 | 75.7 | 155.1 | |
| 80000 | 65.5 | 67.3 | 67.3 | 67.6 | 69.8 | 70.9 | 71.2 | 70.4 | 82.9 | 83.9 | 87.2 | 71.8 | 152.4 | |

| | | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| QASPL | 115.8 | 115.7 | 114.4 | 114.0 | 114.0 | 114.0 | 115.0 | 115.3 | 116.7 | 122.3 | 128.2 | 130.4 | 127.0 | 125.9 | 166.2 |
| PWL | 128.5 | 128.7 | 127.4 | 127.5 | 126.9 | 128.1 | 128.1 | 129.4 | 135.0 | 139.9 | 141.5 | 137.5 | 137.4 | | |
| PNLT | 129.6 | 128.7 | 127.4 | 127.5 | 126.9 | 128.1 | 128.1 | 129.4 | 135.0 | 139.9 | 141.5 | 137.5 | 137.4 | | |
| DBA | 187.7 | 191.0 | 189.0 | 189.3 | 191.6 | 192.7 | 192.7 | 192.9 | 206.0 | 207.4 | 210.4 | 195.5 | 190.1 | | |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH041 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CNF1G = 4 MODEL = 4 FLTVL = 400. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.60 RELHUM = 47.1 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNF1G = ARC MIKE HT = NBFR =

FNINI = LBS XNL RPM = V8 = 2376.8 FPS AEB = 25.3 SQ IN
FNAMB = LBS XNLR RPM = V18 = 861 CORR FAN SPEED = RPM

RUNPT = 00-0406 TAPE = X0406F TEST PT NO = 0406 NC = 861 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-0406 X04061

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | PWL |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50 | 71.3 | 74.3 | 73.4 | 74.8 | 77.0 | 78.2 | 80.4 | 86.5 | 93.1 | 94.6 | 92.6 | 86.7 | 168.7 |
| 60 | 73.7 | 75.0 | 74.7 | 75.1 | 77.5 | 77.7 | 79.0 | 81.4 | 87.4 | 94.9 | 96.8 | 86.1 | 170.0 |
| 80 | 73.0 | 76.5 | 77.9 | 78.8 | 79.9 | 80.3 | 81.5 | 88.0 | 97.3 | 95.4 | 92.5 | 85.0 | 170.3 |
| 100 | 75.1 | 77.7 | 76.9 | 77.1 | 79.1 | 80.0 | 80.3 | 88.0 | 96.8 | 98.5 | 92.9 | 87.4 | 171.6 |
| 125 | 77.6 | 77.5 | 77.2 | 78.5 | 79.9 | 81.3 | 81.4 | 89.3 | 97.0 | 98.6 | 92.0 | 86.8 | 171.7 |
| 160 | 78.7 | 80.4 | 79.7 | 80.0 | 83.0 | 82.9 | 82.5 | 90.6 | 96.4 | 99.6 | 91.7 | 86.7 | 172.4 |
| 200 | 79.6 | 83.6 | 82.4 | 82.7 | 83.8 | 84.9 | 85.1 | 91.4 | 97.6 | 97.9 | 90.5 | 86.0 | 172.2 |
| 250 | 85.6 | 84.2 | 83.5 | 83.2 | 84.1 | 83.9 | 85.3 | 91.0 | 96.8 | 96.1 | 88.9 | 85.7 | 171.5 |
| 315 | 84.6 | 86.5 | 86.1 | 84.7 | 86.8 | 85.3 | 85.1 | 91.5 | 95.4 | 95.7 | 87.9 | 83.6 | 171.4 |
| 400 | 82.3 | 85.5 | 86.9 | 85.7 | 87.4 | 85.3 | 85.8 | 91.8 | 94.2 | 92.9 | 86.4 | 82.0 | 170.6 |
| 500 | 80.1 | 82.2 | 82.5 | 84.0 | 83.1 | 85.8 | 86.7 | 90.9 | 93.2 | 91.2 | 83.4 | 80.3 | 169.7 |
| 630 | 78.6 | 80.1 | 81.1 | 82.2 | 83.3 | 84.8 | 85.8 | 89.8 | 92.0 | 89.7 | 82.6 | 77.6 | 169.0 |
| 800 | 79.0 | 81.3 | 81.9 | 82.2 | 84.3 | 84.5 | 86.1 | 88.5 | 90.3 | 87.8 | 80.6 | 76.2 | 168.4 |
| 1000 | 75.8 | 78.8 | 79.2 | 79.9 | 81.2 | 83.1 | 83.5 | 85.0 | 87.6 | 86.6 | 79.2 | 75.3 | 168.0 |
| 1250 | 75.8 | 78.9 | 79.4 | 79.8 | 81.1 | 82.2 | 83.5 | 86.0 | 86.9 | 84.7 | 76.8 | 71.7 | 167.1 |
| 1600 | 74.2 | 77.0 | 77.9 | 78.7 | 80.5 | 80.8 | 80.8 | 83.9 | 84.5 | 81.6 | 74.2 | 67.8 | 166.3 |
| 2000 | 71.3 | 73.7 | 75.5 | 76.3 | 77.4 | 78.1 | 79.9 | 80.7 | 81.1 | 79.0 | 71.0 | 63.3 | 165.5 |
| 2500 | 65.7 | 70.3 | 71.7 | 73.0 | 73.5 | 74.7 | 74.9 | 75.1 | 76.8 | 77.4 | 73.8 | 65.8 | 164.2 |
| 3150 | 59.0 | 63.4 | 66.1 | 67.8 | 68.7 | 71.0 | 71.0 | 69.6 | 72.5 | 71.7 | 68.8 | 56.7 | 163.7 |
| 4000 | 48.0 | 56.8 | 60.1 | 61.6 | 64.0 | 63.5 | 63.5 | 66.4 | 64.4 | 61.1 | 44.4 | 23.0 | 164.1 |
| 5000 | 32.8 | 42.8 | 46.8 | 50.3 | 53.2 | 55.5 | 55.1 | 54.1 | 57.0 | 56.8 | 49.8 | 26.5 | 166.0 |
| 6300 | 10.0 | 23.5 | 30.6 | 34.8 | 38.4 | 41.3 | 40.2 | 38.1 | 43.6 | 42.1 | 31.6 | | 169.3 |
| 8000 | | | | | | | | | | | | | 172.6 |
| 10000 | | | | | | | | | | | | | 169.8 |

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VEHICLE = ADH041 TEST DATE = 08-19-81
PWL AREA = FULL SPHERE EXT DIST = 2400.0 FT
CONFIG = 4 MODEL = 4 PAMB HG = 29.60 RELHUM = 47.1 PCT
IAPLHA = SB59 IEQA = NO DEQ WIND VEL = MPH
FNNI = LBS XNL RPM XNHR RPM V8 = 2376.8 FPS AE8 = 25.3 SQ IN
FNRMB = LBS XNL RPM V8 = 2376.8 FPS AE8 = 25.3 SQ IN
RNPFT = 81F-400-0406 TAPE = X04061 TEST PT NO = 0406 NC = 861 CORR FAN SPEED = RPM

DATPROC - FL..AN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARCIDENTIFICATION - MODEL 81F-ZER-0407 X0407C
BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 85.9 85.2 83.2 82.5 83.1 87.2 87.1 88.3 90.0 96.8 96.7 96.4 97.3 133.5

63 89.0 88.5 89.3 88.8 90.7 93.0 91.9 91.3 95.0 99.9 99.2 98.4 100.1 136.8

80 90.8 96.1 90.8 91.1 92.7 95.6 95.5 94.6 96.3 95.7 98.3 99.7 101.9 137.8

100 91.3 97.1 92.9 94.2 95.0 96.9 97.2 98.7 97.1 98.9 100.3 104.0 105.9 140.5

125 87.9 91.1 93.2 94.9 95.5 97.7 97.8 97.4 98.7 101.5 107.9 109.3 110.2 144.0

160 87.5 87.3 89.8 90.6 90.2 92.6 94.7 95.6 98.8 103.4 107.5 110.2 112.9 144.7

200 88.3 88.6 89.3 90.1 93.0 95.8 95.7 97.4 102.1 104.7 109.0 113.2 115.1 147.0

250 88.3 88.6 89.3 90.1 93.4 94.2 95.3 98.0 100.1 103.8 110.2 117.2 119.6 150.7

315 89.6 91.9 90.9 92.4 94.5 97.6 99.0 101.4 107.4 113.2 116.1 118.3 117.7 152.1

400 92.1 93.4 94.1 95.4 95.5 99.4 102.0 106.2 113.9 120.0 120.8 118.2 116.2 156.2

500 90.9 95.0 94.3 95.0 96.1 99.3 100.9 105.0 111.0 119.1 120.5 117.3 115.4 157.4

630 93.3 95.6 95.1 96.2 98.0 99.6 102.5 106.2 112.1 121.7 122.6 121.2 119.4 157.4

800 97.2 96.2 96.3 97.3 99.4 101.2 103.1 106.3 113.0 121.6 122.5 120.4 117.5 157.1

1000 101.5 100.3 100.6 102.0 104.4 107.3 109.7 114.6 121.8 118.7 114.5 111.0 105.8 155.8

1250 103.6 104.4 104.7 104.3 104.9 107.3 109.7 114.6 121.8 118.7 114.5 111.0 105.8 155.8

1500 102.5 103.6 103.8 104.9 107.0 107.1 110.1 114.4 120.1 116.0 112.9 109.0 104.9 154.8

1750 102.5 103.6 103.8 104.9 107.0 107.1 110.1 114.4 120.1 116.0 112.9 109.0 104.9 154.8

2000 102.5 103.6 103.8 104.9 107.0 107.1 110.1 114.4 120.1 116.0 112.9 109.0 104.9 154.8

2500 102.5 103.6 103.8 104.9 107.0 107.1 110.1 114.4 120.1 116.0 112.9 109.0 104.9 154.8

3150 102.5 103.6 103.8 104.9 107.0 107.1 110.1 114.4 120.1 116.0 112.9 109.0 104.9 154.8

4000 102.5 103.6 103.8 104.9 107.0 107.1 110.1 114.4 120.1 116.0 112.9 109.0 104.9 154.8

5000 69.4 73.7 74.4 76.1 79.1 83.3 84.6 87.6 93.3 101.1 96.8 90.2 77.9 153.6

63000 63.6 69.5 72.3 74.6 78.3 81.3 83.7 91.1 99.2 95.6 86.0 75.0 156.9

80000 59.0 66.4 65.2 66.5 68.4 72.6 75.2 78.5 87.7 94.9 93.7 81.6 66.4 160.1

QASPL 112.6 113.6 112.8 114.5 116.4 118.1 120.9 125.6 132.1 130.2 127.9 169.1

PNLT 125.4 126.5 125.9 126.8 127.9 129.9 131.3 133.9 138.2 144.5 142.9 137.1

DBA 113.1 113.8 112.9 113.5 114.3 116.1 117.8 120.6 125.4 132.3 131.6 128.8 125.7

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH025 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONF16 = 4
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 70.00 MIKE HT = 29.60
WIND DIR = DEG WIND YEL = MPH EXT DIST = 40.0 FT EXT CONF16 = ARC NBFR = 57.9 PCT
FNIN1 = LBS XNL RPM XNHR = RPM V8 = 2387.2 FPS AEB = 25.3 SQ IN
FNRAMB = LBS XNL RPM XNHR = RPM V8 = 2387.2 FPS AEB = 25.3 SQ IN
RUNPT = 81F-ZER-0407 TAPE = X0407C TEST PT NO = 0407 NC = 861 CORR FAN SPEED = RPMORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-0407 X0407F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50

63

80

100

125

160

200

250

315

400

500

630

800

1000

1250

1600

2000

2500

3150

4000

5000

6300

8000

10000

12500

16000

20000

25000

31500

40000

50000

63000

80000

QASPL

PNL

PFLT

DBA

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH025 TEST DATE = 08-19-81
IAPLHA = SB59
WIND DIR = DEG WIND VEL = MPH
LOCAT = C41 ANECH CH CNF10 = 4
TAMB F = 70.00 PAMB HG = 29.60 RELHUM = 57.9 PCT
FLTVEL = 0. FPS
NBFR =

FNINI = LBS XNLB = RPM XNHR = RPM V8 = 2387.2 FPS AEB = 25.3 SQ IN
FNRAMB = LBS XNLB = RPM XNHR = RPM V8 = 2387.2 FPS AEB = 25.3 SQ IN
CORR FAN SPEED = RPM

RUNPT = 81F-ZER-0407 TAPE = X0407F
TEST PT NG = 0407 NC = 861
CORR FAN SPEED = RPM

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OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-0407 X04071

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 70.1 72.9 74.7 76.7 77.2 81.2 83.7 87.5 94.5 99.5 98.6 98.4 95.9 89.7 173.6

63 68.9 74.0 74.8 76.3 77.8 81.1 82.6 86.3 91.6 98.6 98.6 98.4 95.9 89.7 172.8

80 71.2 75.1 75.7 77.4 79.7 81.4 84.2 87.4 92.7 101.1 100.5 96.9 91.7 174.8

100 75.0 75.6 76.7 78.5 81.0 83.0 84.8 87.5 93.5 101.0 100.3 96.0 89.7 174.5

125 78.9 80.8 80.4 81.4 82.2 83.7 85.9 88.4 94.2 101.4 100.4 96.1 89.7 175.0

160 78.0 83.9 83.8 84.6 85.1 87.1 89.3 94.5 101.5 100.5 94.8 87.0 175.0

200 82.0 81.2 82.1 83.2 84.2 85.5 88.1 90.0 94.9 100.7 99.6 92.8 84.5 174.4

250 82.1 84.0 83.3 83.5 83.5 85.5 87.3 89.7 94.8 101.6 96.7 90.5 82.8 174.1

315 80.2 82.8 83.5 85.1 85.1 85.9 88.1 90.1 94.2 100.1 95.2 88.4 80.6 173.2

400 78.5 81.5 83.9 85.4 87.7 87.6 90.1 93.6 98.0 94.0 86.2 77.7 172.2

500 76.3 78.8 80.1 82.0 84.3 86.7 88.2 90.3 93.3 96.7 91.3 84.2 76.2 171.4

630 73.7 77.4 78.3 80.5 83.2 85.3 87.3 89.8 91.9 95.2 89.9 82.5 73.3 170.6

800 72.4 77.1 77.7 80.2 82.6 85.0 86.6 89.0 90.6 93.5 88.3 81.2 71.1 169.8

1000 69.9 75.1 75.9 78.5 80.9 84.1 85.5 87.6 89.1 92.4 86.0 78.5 69.2 169.0

1250 68.9 73.2 75.3 78.6 80.7 83.7 84.6 86.1 88.2 90.9 84.9 76.4 66.1 168.6

1600 66.4 70.9 73.7 75.9 78.8 81.3 82.8 83.9 86.3 88.3 82.6 73.3 61.7 167.7

2000 62.0 68.6 70.6 72.9 75.7 79.2 80.1 82.7 84.0 85.4 78.5 69.5 56.5 166.8

2500 58.0 64.0 67.0 70.3 72.9 75.9 77.3 79.3 80.2 81.6 75.3 65.1 48.6 166.2

3150 49.8 58.6 61.8 65.0 68.8 72.2 73.9 75.8 76.4 69.6 57.5 36.0 165.8

4000 39.1 50.1 54.0 58.0 62.0 65.5 66.5 68.5 69.9 61.2 45.4 16.8 166.6

5000 25.4 37.8 44.2 48.5 53.1 57.3 57.9 59.0 60.7 49.9 28.7 2.4 168.1

6300 2.3 18.5 26.5 32.6 38.1 43.1 43.6 44.1 45.4 45.9 29.6 2.4 171.0

8000 174.3 177.6

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OF POOR QUALITY

VEHICL = ADH025 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH C0NF1G = 4 MODEL = 4 FLTVEL = 0. FPS
IAPLHA = SB59 IEQA / = NO PWL AREA = FULL SPHERE TAMB F = 70.00 PAMB HG = 29.60 RELHUM = 57.9 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT C0NF1G = SL MIKE HT = NBFR
FNIN1 = LBS XNL RPM XNHR = RPM V8 = 2387.2 FPS AE8 = 25.3 SQ IN
FNFRMB = LBS XNL RPM XNHR = RPM V8 = 2387.2 FPS AE8 = 25.3 SQ IN
CORR FAN SPEED = RPM

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514
MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

| | | | | | | | | | | | | | | |
|-------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| GASPL | 89.1 | 91.6 | 92.0 | 93.4 | 94.8 | 96.7 | 98.4 | 100.8 | 105.0 | 111.0 | 109.2 | 104.7 | 98.2 | 186.3 |
| PNL | 93.1 | 96.3 | 97.2 | 99.1 | 101.0 | 103.4 | 104.8 | 106.9 | 110.1 | 114.9 | 111.4 | 104.8 | 97.2 | |
| PMLT | 94.2 | 96.3 | 97.2 | 99.1 | 101.0 | 103.4 | 104.8 | 106.9 | 110.1 | 114.9 | 111.4 | 104.8 | 97.2 | |
| DBA | 82.2 | 85.4 | 86.3 | 88.5 | 90.5 | 92.9 | 94.3 | 96.4 | 99.0 | 102.9 | 98.4 | 91.6 | 83.5 | |

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-0408 X0408C
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 88.4 87.5 83.2 83.0 83.4 84.0 86.6 87.5 89.2 95.6 96.7 96.4 99.3 133.5

60 89.5 89.8 89.8 87.8 90.3 91.9 91.3 94.3 100.6 100.0 98.9 100.6 137.1

80 91.0 96.3 90.6 91.6 93.0 94.8 95.2 94.4 96.3 94.9 97.5 99.2 102.9 137.7

100 91.1 96.1 91.1 92.4 93.7 94.6 96.5 97.4 95.9 96.4 98.6 103.5 105.7 139.5

125 88.6 88.6 88.1 88.7 90.5 94.1 95.8 97.2 102.1 109.5 113.3 114.9 147.6

150 87.0 84.6 88.1 88.6 89.0 90.6 91.7 92.1 95.3 99.9 105.0 108.2 111.6 142.8

200 86.8 86.6 86.6 87.1 89.5 91.8 93.5 95.4 99.1 100.9 105.8 111.0 113.4 144.7

250 85.5 88.3 89.9 89.9 90.5 91.8 94.7 96.9 99.6 105.9 111.3 114.2 114.6 147.6

315 85.6 88.6 88.1 88.7 90.5 94.1 95.8 97.2 102.1 109.5 113.3 114.9 149.4

400 88.3 89.9 89.6 90.4 91.3 94.9 97.5 101.4 107.6 115.0 117.1 117.8 113.9 152.1

500 87.7 90.7 90.5 91.8 93.6 95.5 98.4 102.0 108.0 116.1 118.7 117.9 111.3 152.9

630 89.8 92.4 92.7 94.2 96.9 99.7 103.4 108.9 118.4 121.3 117.8 109.4 154.6

800 92.2 92.0 92.5 93.3 95.6 97.5 99.6 103.0 109.0 118.3 121.2 116.4 154.3

1000 96.5 96.8 95.8 96.6 96.7 98.5 100.7 103.8 109.0 119.3 121.5 115.4 154.7

1250 97.7 101.0 99.0 99.1 100.2 101.8 104.0 106.2 111.8 118.7 122.9 114.2 155.2

1500 102.8 101.8 100.3 100.1 100.2 101.8 104.0 106.2 111.8 118.7 122.9 114.2 155.2

2000 101.9 104.1 103.2 102.6 100.7 102.1 103.2 106.4 112.7 120.2 121.0 113.6 155.1

2500 99.4 100.5 101.2 103.3 103.8 103.2 104.0 106.8 111.4 118.8 119.2 111.2 153.8

3150 97.5 98.6 98.1 100.1 102.2 105.5 104.6 106.6 111.9 117.9 118.0 110.9 153.0

4000 96.2 96.8 97.0 98.8 99.9 103.3 106.0 107.5 111.9 116.0 115.7 108.9 151.6

5000 94.4 96.3 96.0 97.0 99.0 101.4 104.3 107.4 111.6 115.6 115.1 107.9 151.2

6300 94.1 95.8 95.2 97.0 98.9 101.6 103.4 107.1 110.8 114.5 113.8 107.0 150.4

8000 94.1 95.8 95.2 97.0 98.9 101.6 103.4 107.1 110.8 114.5 113.8 107.0 150.4

10000 91.6 92.8 93.8 95.3 97.1 100.3 101.7 105.3 108.4 112.3 111.5 104.4 149.2

12500 89.9 91.4 92.2 93.4 95.7 98.2 99.6 102.7 107.0 110.1 109.3 102.9 148.0

16000 86.9 89.4 89.9 90.7 92.7 96.0 97.6 101.2 104.3 107.4 106.2 100.3 146.7

20000 84.1 85.8 86.9 88.5 90.7 93.2 95.4 97.5 101.3 104.7 103.6 97.4 145.7

25000 80.3 83.2 83.2 84.5 86.8 90.9 92.4 93.7 96.0 102.7 100.5 95.4 145.3

31500 75.5 78.9 78.6 80.0 83.4 86.5 88.7 90.7 94.9 99.6 98.3 90.9 145.4

40000 70.8 73.9 75.6 76.9 80.3 82.6 84.5 86.7 92.1 96.7 97.1 87.7 146.9

50000 66.3 69.8 70.0 71.8 75.3 78.5 80.1 81.6 88.9 96.8 94.8 83.1 149.7

63000 61.6 68.1 66.9 68.4 71.2 73.3 75.9 77.6 85.8 94.9 95.0 78.0 153.6

80000 58.7 66.5 65.6 64.2 66.0 68.4 71.2 70.7 81.6 92.6 90.5 73.1 157.1

DBA 109.6 110.7 110.1 110.9 111.6 113.4 114.9 117.5 122.6 129.4 131.2 125.2 118.3

PWL 121.9 123.5 123.0 124.3 125.8 128.2 128.7 130.9 135.5 141.6 143.2 137.1 131.4

GNASP 109.2 110.6 109.9 110.7 111.6 113.6 115.1 117.8 122.7 129.4 131.3 126.9 166.6

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH042 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CNFNG = 4 MODEL = 4 FLTVEL = 400. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 79.00 MIKE HT = 29.60 RELHUM = 47.1 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFNG = ARC NBFR =

FNINI = LBS XNL RPM XNHR = RPM V6 = 2396.5 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNL RPM XNHR = RPM V6 = 2396.5 FPS AE8 = 25.3 SQ IN

RUNPT = 81F-400-0408 TAPE = X0408C TEST PT NO = 0408 NC = 861 CORR FAN SPEED = RPM

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OF POOR QUALITY

DATPROC - FL1MAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-0408 X04081

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

| | | | | | | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|------|-------|------|-------|-------|
| 50 | 71.3 | 74.5 | 73.7 | 73.4 | 74.8 | 77.0 | 78.4 | 80.9 | 86.8 | 93.4 | 94.6 | 93.1 | 86.7 | 168.9 |
| 63 | 73.8 | 75.7 | 75.1 | 75.1 | 77.2 | 77.7 | 79.2 | 81.4 | 87.9 | 95.8 | 97.6 | 93.4 | 86.6 | 170.9 |
| 80 | 73.3 | 76.6 | 76.0 | 76.5 | 77.9 | 79.1 | 80.4 | 82.5 | 87.4 | 95.5 | 97.1 | 93.5 | 86.6 | 170.5 |
| 100 | 75.3 | 78.2 | 77.6 | 77.4 | 79.3 | 79.8 | 80.4 | 82.1 | 88.3 | 97.3 | 98.6 | 93.7 | 87.9 | 172.0 |
| 125 | 77.6 | 77.7 | 78.0 | 78.0 | 79.8 | 80.8 | 81.4 | 82.9 | 89.8 | 97.3 | 99.2 | 93.1 | 87.3 | 172.3 |
| 160 | 79.0 | 80.2 | 79.5 | 80.1 | 83.4 | 83.2 | 82.5 | 83.4 | 91.3 | 96.9 | 100.0 | 92.5 | 88.4 | 172.9 |
| 200 | 80.0 | 84.3 | 82.7 | 82.6 | 84.3 | 84.9 | 85.4 | 85.4 | 92.2 | 98.2 | 98.1 | 91.7 | 87.0 | 172.6 |
| 250 | 86.2 | 85.8 | 84.3 | 83.7 | 83.9 | 84.6 | 84.1 | 85.6 | 91.2 | 97.2 | 96.6 | 89.7 | 87.3 | 172.1 |
| 315 | 84.5 | 87.4 | 86.8 | 86.0 | 87.6 | 85.8 | 85.1 | 86.1 | 91.8 | 96.3 | 95.3 | 89.1 | 84.3 | 171.8 |
| 400 | 83.1 | 85.0 | 85.9 | 87.5 | 86.5 | 88.2 | 85.8 | 86.0 | 92.2 | 94.6 | 93.1 | 86.9 | 83.3 | 171.1 |
| 500 | 83.4 | 85.0 | 84.2 | 85.4 | 83.8 | 86.3 | 87.5 | 87.3 | 91.4 | 93.7 | 91.7 | 84.8 | 80.2 | 170.4 |
| 630 | 83.8 | 85.8 | 84.6 | 83.0 | 84.6 | 85.8 | 86.9 | 90.4 | 92.3 | 90.1 | 83.6 | 78.9 | 169.5 | |
| 800 | 76.4 | 79.7 | 80.1 | 81.1 | 82.7 | 84.5 | 84.6 | 89.0 | 90.8 | 88.0 | 81.3 | 76.1 | 168.6 | |
| 1000 | 75.5 | 78.8 | 78.9 | 80.7 | 81.7 | 83.6 | 84.8 | 87.8 | 89.8 | 87.3 | 80.0 | 75.1 | 168.3 | |
| 1250 | 75.8 | 78.7 | 79.9 | 79.8 | 81.1 | 82.9 | 82.6 | 86.5 | 87.6 | 85.0 | 78.1 | 72.3 | 167.7 | |
| 1600 | 74.0 | 76.7 | 78.1 | 79.2 | 79.4 | 80.5 | 80.3 | 81.3 | 84.1 | 85.2 | 81.9 | 75.0 | 166.7 | |
| 2000 | 70.8 | 74.2 | 75.5 | 76.5 | 76.3 | 78.2 | 78.2 | 79.8 | 81.0 | 82.1 | 78.5 | 70.7 | 165.6 | |
| 2500 | 65.7 | 70.6 | 72.0 | 72.7 | 73.7 | 74.9 | 75.3 | 75.3 | 77.2 | 79.3 | 73.9 | 66.0 | 164.8 | |
| 3150 | 58.8 | 63.9 | 66.6 | 68.3 | 68.5 | 71.3 | 71.0 | 69.8 | 72.9 | 74.2 | 68.6 | 56.7 | 164.3 | |
| 4000 | 48.0 | 55.8 | 58.2 | 60.3 | 62.1 | 64.0 | 64.2 | 63.5 | 67.1 | 67.3 | 61.9 | 45.1 | 165.2 | |
| 5000 | 32.6 | 43.1 | 46.6 | 49.5 | 54.0 | 55.3 | 55.0 | 54.0 | 58.0 | 60.3 | 50.3 | 27.2 | 167.7 | |
| 6300 | 9.7 | 23.5 | 31.1 | 35.3 | 38.9 | 41.3 | 40.5 | 38.1 | 43.8 | 45.1 | 33.6 | | 174.8 | |
| 8000 | | | 3.2 | 10.0 | 16.6 | 18.3 | 18.2 | 14.9 | 19.7 | 19.4 | | | 172.0 | |

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MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICLE = ADH042 TEST DATE = 08-19-81 LOCALAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 400. FPS
 WIND DIR = 8859 DEG WIND VEL = NO MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = 29.60 RELHUM = 47.1 PCT
 FNIN1 = LBS XNL RPM XNH XNHR = RPM V18 = 2396.5 FPS AE18 = 25.3 SQ IN SQ IN
 RUNPT = 81F-400-0408 TAPE = X04081 TEST PT NO = 0408 NC = 861 CORR FAN SPEED = RPM

IDENTIFICATION - MODEL 81F-ZER-0411 X0411C
BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ. 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 86.2 85.5 83.0 82.8 83.4 88.0 87.9 88.8 90.0 96.8 96.9 95.9 97.3 133.6

63 89.0 88.8 88.8 88.8 90.7 93.0 92.4 91.3 95.0 100.1 99.0 97.9 100.1 136.8

80 91.0 96.1 90.8 91.4 93.2 95.8 96.0 95.1 96.6 100.2 102.6 106.2 140.9

100 91.3 97.8 92.9 94.2 95.2 96.9 97.5 98.7 97.6 100.6 104.5 106.2 140.9

125 88.1 90.9 92.7 94.4 95.5 98.2 98.0 97.9 98.9 101.7 107.9 109.3 144.1

160 87.8 87.6 90.3 90.6 90.0 92.8 95.0 95.9 98.8 102.9 107.3 110.2 144.8

200 89.3 88.6 89.3 90.9 93.2 95.8 96.2 98.1 102.3 105.2 108.8 113.0 147.0

250 88.5 92.3 92.6 93.6 94.5 95.6 96.6 97.7 100.1 104.3 110.2 114.3 117.2 116.9 150.6

315 89.6 92.1 91.4 92.9 94.5 98.1 99.8 101.7 107.4 113.7 115.8 118.5 117.7 152.2

400 89.6 92.1 91.4 92.9 94.5 98.1 99.8 101.7 107.4 113.7 115.8 118.5 117.7 152.2

500 91.4 94.5 94.3 94.8 96.1 99.0 101.6 105.0 111.3 118.8 120.2 120.4 117.8 155.4

630 93.6 95.6 95.6 96.7 98.0 99.6 102.5 106.4 112.6 121.2 122.3 120.7 119.2 157.1

800 97.2 96.7 96.5 97.5 99.4 101.5 103.4 106.3 108.7 111.0 113.6 117.8 114.8 110.6 107.2 153.1

1000 97.6 100.1 100.0 101.0 102.9 105.4 106.9 110.6 113.1 116.5 113.8 110.5 106.1 102.5

1250 98.7 95.6 96.4 97.7 99.9 102.7 104.1 105.7 109.0 112.8 109.8 105.2 102.2 150.4

16000 90.4 93.4 94.4 94.7 97.5 100.0 101.6 104.9 107.3 110.9 106.7 103.3 100.0 149.8

20000 88.0 90.5 91.2 92.7 94.7 96.9 97.7 98.9 101.7 104.6 100.7 96.6 148.8

25000 83.7 87.6 87.9 89.2 91.5 95.6 97.1 98.6 99.9 102.1 106.1 103.0 98.8 92.1 149.0

31500 79.0 83.6 83.9 85.0 88.0 91.8 93.2 95.4 99.9 103.6 101.3 95.4 87.4 149.5

40000 74.3 78.4 80.0 81.4 84.5 87.9 89.5 92.7 98.1 100.5 99.8 92.2 83.6 151.0

50000 69.7 73.5 74.4 76.6 79.3 83.8 85.6 89.6 94.6 99.6 96.8 89.0 78.7 153.0

63000 63.6 69.5 69.6 72.1 74.9 78.8 81.6 86.5 92.8 99.2 96.3 85.8 74.3 157.3

80000 59.0 66.4 65.5 66.3 68.7 72.8 75.7 80.0 80.0 90.2 94.6 93.7 80.1 68.9 160.4

QASPL 112.5 113.7 113.0 113.6 114.6 116.7 118.5 121.2 125.8 132.4 131.8 130.2 127.9 169.2

PWL 125.3 126.5 126.1 126.9 128.0 130.0 131.7 134.3 138.4 144.5 142.6 140.0 137.1

DBA 113.0 113.8 113.2 113.6 114.4 116.3 118.2 120.9 125.6 132.3 131.3 128.8 125.7

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

| | | | | | | | | |
|----------------------|----------------------|------------------------|--------------|------------------|------------------|-----------|------------|----------|
| VEHICL = ADH026 | TEST DATE = 08-19-81 | LOCAT = | CAT ANECH CH | CONFID = 4 | MODEL = | 4 | FLVEL = | 0. FPS |
| IAPLHA = SB59 | IEGA = NO | PWL AREA = FULL SPHERE | TAMB F = | 70.00 | PAMB HG = | 29.60 | RELHUM = | 57.9 PCT |
| WIND DIR = | DEG WIND'VEL = | MPH | EXT DIST = | 40.0 FT | EXT CONFID = ARC | MIKE HT = | NBFR = | |
| FNINI = | LBS XNL | RPM | XNH | RPM | V8 | AE8 | 25.3 SQ IN | |
| FNRAMB = | LBS XNLR | RPM | XNHR | RPM | V18 | AE18 | 0. SQ IN | |
| RUNPT = 11F-ZER-0411 | TAPE = X0411C | TEST PT NO = 0411 | NC = 861 | CORR FAN SPEED = | RPM | | | |

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OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-0411 X0411F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.
PWL

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 66.2 | 65.5 | 63.0 | 62.8 | 63.4 | 68.0 | 67.9 | 68.8 | 90.0 | 96.8 | 96.9 | 95.9 | 97.3 | 133.6 |
| 63 | 69.0 | 68.8 | 68.8 | 68.8 | 68.8 | 88.8 | 87.9 | 88.8 | 90.0 | 96.8 | 96.9 | 95.9 | 97.3 | 136.8 |
| 80 | 91.0 | 96.1 | 90.8 | 91.4 | 93.2 | 95.8 | 96.0 | 95.1 | 96.6 | 96.2 | 98.5 | 100.2 | 138.2 | |
| 100 | 91.3 | 97.8 | 92.9 | 94.2 | 95.2 | 96.9 | 97.5 | 98.7 | 97.6 | 99.7 | 100.6 | 104.5 | 140.9 | |
| 125 | 88.1 | 90.9 | 92.7 | 94.4 | 95.5 | 98.2 | 98.0 | 97.9 | 98.9 | 101.7 | 107.9 | 110.5 | 144.1 | |
| 150 | 87.8 | 90.6 | 90.3 | 90.6 | 92.8 | 95.0 | 92.8 | 95.9 | 98.8 | 102.9 | 107.3 | 113.1 | 144.8 | |
| 200 | 89.3 | 88.6 | 89.3 | 90.9 | 93.2 | 95.8 | 96.2 | 98.1 | 102.3 | 105.2 | 108.8 | 113.0 | 147.0 | |
| 250 | 88.5 | 92.3 | 92.6 | 93.6 | 94.5 | 95.6 | 97.7 | 100.1 | 104.3 | 110.2 | 114.3 | 117.2 | 150.6 | |
| 315 | 89.6 | 92.1 | 91.4 | 92.9 | 94.5 | 98.1 | 99.8 | 101.7 | 107.4 | 113.7 | 118.5 | 117.7 | 152.2 | |
| 400 | 92.1 | 93.6 | 93.9 | 95.2 | 95.8 | 99.1 | 101.3 | 106.9 | 114.1 | 119.2 | 120.3 | 120.5 | 155.8 | |
| 500 | 91.4 | 94.5 | 94.3 | 94.8 | 96.1 | 99.0 | 101.6 | 105.0 | 111.3 | 118.8 | 120.2 | 120.4 | 155.4 | |
| 630 | 93.6 | 95.6 | 95.6 | 96.7 | 98.0 | 99.6 | 102.5 | 106.4 | 112.6 | 121.8 | 122.5 | 121.1 | 157.1 | |
| 800 | 97.2 | 96.3 | 97.5 | 97.5 | 101.5 | 103.4 | 106.8 | 113.0 | 121.8 | 122.1 | 122.7 | 120.4 | 157.5 | |
| 1000 | 101.5 | 102.2 | 100.5 | 100.5 | 100.9 | 102.5 | 104.6 | 107.5 | 113.8 | 122.1 | 122.7 | 120.4 | 157.5 | |
| 1250 | 100.2 | 104.8 | 103.3 | 103.1 | 103.9 | 104.3 | 105.4 | 108.6 | 114.8 | 122.4 | 122.2 | 119.4 | 157.4 | |
| 1500 | 104.7 | 102.5 | 102.6 | 102.6 | 102.9 | 104.6 | 107.5 | 109.4 | 115.2 | 123.2 | 119.5 | 111.1 | 156.8 | |
| 2000 | 105.2 | 103.1 | 104.0 | 104.7 | 104.6 | 105.4 | 107.5 | 110.2 | 114.6 | 122.0 | 117.9 | 114.5 | 155.8 | |
| 2500 | 103.4 | 104.2 | 104.0 | 104.7 | 104.6 | 105.4 | 107.5 | 110.2 | 114.6 | 122.0 | 117.9 | 114.5 | 155.8 | |
| 3150 | 102.2 | 103.3 | 102.6 | 103.8 | 105.2 | 107.0 | 107.4 | 109.6 | 114.4 | 120.4 | 117.5 | 112.4 | 154.8 | |
| 4000 | 100.5 | 101.5 | 103.5 | 103.4 | 103.3 | 108.7 | 111.0 | 113.6 | 117.8 | 114.8 | 110.6 | 107.2 | 153.1 | |
| 5000 | 98.7 | 100.5 | 100.0 | 101.5 | 103.2 | 105.7 | 107.6 | 110.1 | 113.6 | 117.8 | 114.8 | 110.6 | 153.1 | |
| 6300 | 97.6 | 100.1 | 100.0 | 101.0 | 102.9 | 105.4 | 106.9 | 110.6 | 113.1 | 116.5 | 113.8 | 110.5 | 152.5 | |
| 8000 | 96.0 | 98.6 | 98.9 | 99.5 | 101.5 | 106.4 | 109.4 | 112.4 | 115.7 | 112.1 | 108.2 | 105.0 | 151.7 | |
| 10000 | 94.8 | 97.0 | 97.8 | 99.6 | 101.6 | 104.3 | 105.2 | 108.3 | 110.7 | 114.5 | 112.0 | 107.4 | 151.4 | |
| 12500 | 93.7 | 95.6 | 96.4 | 97.7 | 99.9 | 102.7 | 104.1 | 105.7 | 109.0 | 112.8 | 109.8 | 105.2 | 150.4 | |
| 15000 | 90.4 | 93.4 | 94.4 | 94.7 | 97.5 | 100.0 | 101.6 | 104.9 | 107.3 | 110.9 | 106.7 | 100.0 | 149.8 | |
| 20000 | 88.0 | 90.5 | 92.7 | 94.7 | 98.9 | 101.7 | 104.6 | 107.9 | 104.6 | 107.9 | 104.8 | 100.7 | 148.8 | |
| 25000 | 83.7 | 87.6 | 87.9 | 89.2 | 91.5 | 95.6 | 97.1 | 98.6 | 102.1 | 106.1 | 103.0 | 98.8 | 149.0 | |
| 31500 | 79.0 | 83.6 | 83.9 | 85.0 | 88.0 | 91.8 | 93.2 | 95.4 | 99.9 | 103.6 | 101.3 | 95.4 | 149.5 | |
| 40000 | 74.3 | 78.4 | 78.0 | 81.4 | 84.5 | 87.9 | 89.5 | 92.7 | 98.1 | 100.5 | 99.8 | 92.2 | 151.0 | |
| 50000 | 69.7 | 73.5 | 73.6 | 76.6 | 79.3 | 83.8 | 85.6 | 89.3 | 94.6 | 99.6 | 96.8 | 89.0 | 153.0 | |
| 63000 | 63.6 | 69.5 | 69.6 | 72.1 | 74.9 | 78.8 | 81.6 | 86.5 | 92.8 | 99.2 | 96.3 | 85.8 | 157.3 | |
| 80000 | 59.0 | 66.4 | 65.5 | 68.3 | 68.7 | 72.8 | 75.7 | 80.0 | 90.2 | 94.6 | 93.7 | 80.1 | 160.4 | |
| DBA | 180.6 | 187.5 | 186.9 | 188.1 | 190.7 | 194.8 | 197.5 | 201.9 | 211.1 | 215.8 | 214.5 | 201.8 | 190.6 | |
| PWL | 125.3 | 127.2 | 126.1 | 126.9 | 128.0 | 130.0 | 131.7 | 134.9 | 139.2 | 144.5 | 143.3 | 140.0 | 137.1 | |
| DBA | 180.6 | 187.5 | 186.9 | 188.1 | 190.7 | 194.8 | 197.5 | 201.9 | 211.1 | 215.8 | 214.5 | 201.8 | 190.6 | |

ORIGINAL PROCEEDINGS
OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH026 TEST DATE = 08-19-81
IAPLHA = SB59
WIND DIR = DEG WIND VEL = MPH
LOCAL = C41 ANECH CH CONFIG = 4
TAMB F = 70.00 PAMB HG = 29.60
FLVEL = 0. FPS
RELHUM = 57.9 PCT
NBFR =

FNINI = LBS XNL RPM XNH RPM XNHR = = =
LBS XNL RPM XNH RPM XNHR = = =
FNRAMB = = =
WIND DIR = DEG WIND VEL = MPH
VEHICL = ADH026 TEST DATE = 08-19-81
IAPLHA = SB59
WIND DIR = DEG WIND VEL = MPH
LOCAL = C41 ANECH CH CONFIG = 4
TAMB F = 70.00 PAMB HG = 29.60
FLVEL = 0. FPS
RELHUM = 57.9 PCT
NBFR =

RUNPT = 81F-ZER-0411 TAPE = X0411F
TEST PT NO = 0411 NC = 861
CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-0411 X04111

ANGLES MEASURED FROM INLET, DEGREES

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FREQ | 50 | 63 | 80 | 100 | 125 | 160 | 200 | 250 | 315 | 400 | 500 | 630 | 800 | 1000 | 1250 | 1500 | 2000 | 2500 | 3150 | 4000 | 5000 | 6300 | 8000 | 10000 | 12500 | 15000 | 20000 | 25000 | 31500 | 40000 | 50000 | 63000 | 80000 |
| | 70.1 | 69.4 | 71.5 | 75.0 | 79.2 | 83.9 | 88.0 | 92.1 | 95.9 | 100.0 | 104.0 | 108.0 | 112.0 | 116.0 | 120.0 | 124.0 | 128.0 | 132.0 | 136.0 | 140.0 | 144.0 | 148.0 | 152.0 | 156.0 | 160.0 | 164.0 | 168.0 | 172.0 | 176.0 | 180.0 | 184.0 | 188.0 | 192.0 |
| | 73.1 | 74.8 | 77.9 | 81.4 | 85.0 | 88.6 | 92.1 | 95.6 | 99.1 | 102.6 | 106.1 | 109.6 | 113.1 | 116.6 | 120.1 | 123.6 | 127.1 | 130.6 | 134.1 | 137.6 | 141.1 | 144.6 | 148.1 | 151.6 | 155.1 | 158.6 | 162.1 | 165.6 | 169.1 | 172.6 | 176.1 | 179.6 | 183.1 |
| | 74.5 | 76.1 | 79.2 | 82.4 | 85.6 | 88.8 | 92.0 | 95.2 | 98.4 | 101.6 | 104.8 | 108.0 | 111.2 | 114.4 | 117.6 | 120.8 | 124.0 | 127.2 | 130.4 | 133.6 | 136.8 | 140.0 | 143.2 | 146.4 | 149.6 | 152.8 | 156.0 | 159.2 | 162.4 | 165.6 | 168.8 | 172.0 | 175.2 |
| | 75.5 | 77.8 | 81.4 | 84.2 | 87.0 | 89.8 | 92.6 | 95.4 | 98.2 | 101.0 | 103.8 | 106.6 | 109.4 | 112.2 | 115.0 | 117.8 | 120.6 | 123.4 | 126.2 | 129.0 | 131.8 | 134.6 | 137.4 | 140.2 | 143.0 | 145.8 | 148.6 | 151.4 | 154.2 | 157.0 | 159.8 | 162.6 | 165.4 |
| | 77.5 | 80.8 | 84.4 | 87.0 | 89.6 | 92.2 | 94.8 | 97.4 | 100.0 | 102.6 | 105.2 | 107.8 | 110.4 | 113.0 | 115.6 | 118.2 | 120.8 | 123.4 | 126.0 | 128.6 | 131.2 | 133.8 | 136.4 | 139.0 | 141.6 | 144.2 | 146.8 | 149.4 | 152.0 | 154.6 | 157.2 | 159.8 | 162.4 |
| | 81.0 | 83.3 | 86.3 | 88.8 | 91.3 | 93.8 | 96.3 | 98.8 | 101.3 | 103.8 | 106.3 | 108.8 | 111.3 | 113.8 | 116.3 | 118.8 | 121.3 | 123.8 | 126.3 | 128.8 | 131.3 | 133.8 | 136.3 | 138.8 | 141.3 | 143.8 | 146.3 | 148.8 | 151.3 | 153.8 | 156.3 | 158.8 | 161.3 |
| | 83.0 | 86.2 | 89.4 | 91.8 | 94.2 | 96.6 | 99.0 | 101.4 | 103.8 | 106.2 | 108.6 | 111.0 | 113.4 | 115.8 | 118.2 | 120.6 | 123.0 | 125.4 | 127.8 | 130.2 | 132.6 | 135.0 | 137.4 | 139.8 | 142.2 | 144.6 | 147.0 | 149.4 | 151.8 | 154.2 | 156.6 | 159.0 | 161.4 |
| | 86.2 | 89.7 | 92.7 | 94.7 | 96.7 | 98.7 | 100.7 | 102.7 | 104.7 | 106.7 | 108.7 | 110.7 | 112.7 | 114.7 | 116.7 | 118.7 | 120.7 | 122.7 | 124.7 | 126.7 | 128.7 | 130.7 | 132.7 | 134.7 | 136.7 | 138.7 | 140.7 | 142.7 | 144.7 | 146.7 | 148.7 | 150.7 | 152.7 |
| | 94.7 | 98.3 | 101.8 | 104.3 | 106.8 | 109.3 | 111.8 | 114.3 | 116.8 | 119.3 | 121.8 | 124.3 | 126.8 | 129.3 | 131.8 | 134.3 | 136.8 | 139.3 | 141.8 | 144.3 | 146.8 | 149.3 | 151.8 | 154.3 | 156.8 | 159.3 | 161.8 | 164.3 | 166.8 | 169.3 | 171.8 | 174.3 | 176.8 |
| PWL | 90.4 | 96.3 | 98.3 | 98.3 | 98.3 | 98.3 | 98.3 | 98.3 | 98.3 | 98.3 | 98.3 | 98.3 | 98.3 | 98.3 | 98.3 | 98.3 | 98.3 | 98.3 | 98.3 | 98.3 | 98.3 | 98.3 | 98.3 | 98.3 | 98.3 | 98.3 | 98.3 | 98.3 | 98.3 | 98.3 | 98.3 | 98.3 | 98.3 |

ORIGINAL PAGE 18
OF POOR QUALITY

VEHICLE = ADH026 TEST DATE = 08-19-81
WIND DIR = SB59 DEG WIND VEL = NO MPH
PWL AREA = FULL SPHERE EXT DIST = 2400.0 FT
CONFIG = 4 TAMB F = 70.00
MODEL = 4 PAMB HG = 29.60
RELHUM = 57.9 PCT
FLVEL = 0. FPS
FNRAMB = LBS XNLR RPM XNHR RPM V8 = 2406.7 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNLR RPM XNHR RPM V8 = 2406.7 FPS AE8 = 25.3 SQ IN
CORR FAN SPEED = RPM
TEST PT NO = 0411
NC = 861
ZER-0411 TAPE = X04111

MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

DATPROC - FLIKAN

06/18/82 17.409 PAGE 1

IDENTIFICATION - MODEL 81F-400-0412 X0412C
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 68.9 87.5 83.2 83.3 83.4 84.2 86.4 87.5 89.2 95.8 97.2 96.1 99.3 133.6
63 89.5 89.8 88.8 88.1 89.9 90.8 91.7 91.1 94.3 100.4 99.7 98.9 100.3 136.9
80 91.8 96.6 90.8 91.9 93.0 95.6 95.5 94.6 96.3 95.4 97.8 99.7 102.6 137.9
100 91.1 96.3 91.6 92.9 93.5 95.1 96.5 96.9 96.1 96.9 99.1 103.5 105.4 139.5
125 88.6 91.4 92.2 93.4 94.8 97.2 96.8 96.7 95.4 99.0 105.9 110.2 143.0
160 87.0 84.8 88.6 88.9 88.7 90.6 92.2 92.4 95.6 100.4 105.3 108.5 111.6 142.9
200 86.5 86.8 86.8 87.1 89.7 92.1 93.2 95.6 99.3 101.2 106.0 111.0 113.6 144.8
250 85.0 88.8 90.1 90.7 92.6 94.7 97.1 99.6 106.2 111.0 114.5 115.4 147.9
315 86.1 88.6 88.1 88.9 90.8 93.9 96.3 97.7 102.1 110.0 113.3 116.3 149.5
400 88.6 89.6 90.1 90.4 91.8 94.9 97.3 101.4 107.6 114.7 117.1 118.0 152.1
500 88.2 90.5 90.8 92.0 93.4 96.0 98.6 102.0 108.0 116.3 119.0 117.9 153.0
630 89.8 92.7 92.1 92.7 94.7 96.9 99.7 103.7 108.8 118.8 121.2 116.4 154.5
800 92.2 92.0 92.5 93.8 95.1 97.8 99.4 103.3 108.8 118.8 121.2 116.4 154.5
1000 96.5 97.0 96.0 96.6 96.7 98.8 101.4 104.1 109.3 119.1 121.7 115.4 154.8
1250 98.2 101.0 99.8 100.6 99.9 100.8 101.9 105.1 110.8 119.1 122.5 114.4 155.3
1600 103.3 102.3 101.6 100.4 100.2 101.8 104.5 106.2 112.1 119.5 122.9 114.4 155.7
2000 101.7 103.8 103.7 102.9 101.2 101.6 103.2 106.1 113.0 120.4 121.3 113.1 155.4
2500 98.9 101.0 101.0 103.0 103.3 103.2 104.5 107.0 111.9 119.4 124.7 115.0 154.0
3150 97.0 99.3 98.6 100.1 102.5 105.5 105.2 106.6 111.9 118.4 118.7 110.2 153.5
4000 96.7 97.3 98.0 98.0 99.9 103.1 105.7 108.0 112.2 117.0 116.7 108.9 152.3
5000 95.2 96.3 95.8 97.5 99.0 101.7 104.3 107.9 111.4 115.8 115.1 107.9 151.3
6300 94.1 96.6 97.0 98.9 101.6 103.4 107.3 114.5 114.3 112.4 107.1 99.7 150.6
8000 92.2 94.4 95.8 97.6 100.6 103.2 106.4 110.1 113.8 112.6 106.0 99.0 150.0
10000 92.3 93.6 93.6 95.3 96.6 100.1 101.4 104.8 109.2 112.3 111.5 104.2 149.3
12500 90.5 92.2 93.0 93.2 95.7 99.0 100.2 103.0 106.8 110.4 109.1 95.8 148.1
16000 85.5 89.7 89.9 90.7 93.1 95.5 97.4 101.5 104.8 108.3 106.8 100.3 147.3
20000 85.1 86.7 87.3 88.6 90.1 93.3 95.5 98.1 101.7 105.6 105.7 97.8 146.7
25000 80.7 83.6 83.6 84.4 87.0 91.0 92.8 94.0 98.3 103.4 102.2 95.3 146.1
31500 75.9 79.5 79.8 80.9 86.9 88.8 89.8 90.3 95.8 100.3 99.0 91.3 146.1
40000 71.2 75.1 76.3 76.6 79.5 83.3 84.7 87.6 92.6 97.6 97.5 87.3 147.5
50000 71.5 71.2 72.5 74.9 78.6 80.5 82.2 86.6 97.8 94.8 83.3 73.0 150.2
63000 62.5 68.7 67.2 69.5 71.5 73.9 76.7 78.2 86.7 96.8 79.4 67.3 154.4
80000 59.5 66.8 66.1 64.5 66.0 68.9 71.7 71.7 84.1 89.6 88.0 73.6 154.9

QASPL 109.4 110.9 110.3 110.7 111.6 113.6 115.3 118.1 122.8 129.7 131.5 126.9 123.1 166.6
PWL 121.9 123.6 123.3 124.3 125.7 127.5 128.3 128.7 131.2 135.7 141.9 143.0 131.4
DBA 109.7 110.9 110.5 110.9 111.5 113.4 115.1 117.8 122.7 129.7 131.4 125.1 118.6

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH043 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CONFID = 4
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 MIKE HT = 29.60
WIND DIR = DEG WIND/VEL = MPH EXT DIST = 40.0 FT EXT CONFID = ARC NBFR = 400. FPS
FNINI = LBS XNL = RPM XNH = RPM V8 = 2410.3 FPS AE8 = 25.3 SQ IN
FNFRMB = LBS XNL = RPM XNH = RPM V8 = 2410.3 FPS AE8 = 25.3 SQ IN
RPNPT = 81F-400-0412 TAPE = X0412C TEST PT NO = 0412 NC = 861 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-0412 X0412F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

FREQ

50

63

80

100

125

160

200

250

315

400

500

630

800

1000

1250

1600

2000

2500

3150

4000

5000

6300

8000

10000

12500

16000

20000

25000

31500

40000

50000

63000

80000

| | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| DBA | 188.3 | 192.4 | 190.1 | 190.4 | 191.9 | 193.5 | 194.7 | 193.8 | 204.9 | 210.4 | 209.0 | 197.6 | 190.8 |
| PWL | 129.9 | 127.9 | 127.8 | 127.3 | 128.6 | 128.6 | 128.6 | 130.0 | 135.5 | 140.8 | 142.0 | 138.1 | 138.2 |
| QASPL | 116.0 | 116.3 | 114.9 | 114.4 | 114.3 | 115.3 | 115.7 | 117.3 | 122.8 | 128.9 | 130.9 | 127.7 | 126.9 |
| 60000 | 66.1 | 68.2 | 68.9 | 70.0 | 71.9 | 73.2 | 71.7 | 78.2 | 81.7 | 86.7 | 85.4 | 74.0 | 66.7 |
| 63000 | 72.6 | 73.6 | 73.4 | 76.1 | 76.9 | 78.2 | 78.2 | 81.5 | 86.5 | 93.8 | 93.8 | 76.5 | 155.3 |
| 50000 | 77.3 | 80.0 | 79.7 | 78.4 | 79.5 | 81.6 | 81.9 | 82.2 | 92.6 | 102.2 | 99.6 | 88.1 | 83.0 |
| 40000 | 82.3 | 84.8 | 83.6 | 83.1 | 84.1 | 86.3 | 86.1 | 87.6 | 98.5 | 102.3 | 99.6 | 91.1 | 87.7 |
| 31500 | 86.0 | 89.7 | 88.2 | 87.5 | 87.4 | 89.9 | 90.3 | 90.8 | 97.1 | 101.7 | 101.9 | 94.7 | 93.4 |
| 25000 | 93.3 | 93.5 | 92.7 | 92.4 | 91.6 | 94.0 | 94.3 | 94.1 | 99.6 | 103.6 | 102.6 | 98.0 | 97.3 |
| 20000 | 93.4 | 94.9 | 94.2 | 94.1 | 94.7 | 96.3 | 97.0 | 98.2 | 101.4 | 106.1 | 105.3 | 101.7 | 101.3 |
| 16000 | 99.6 | 100.1 | 99.4 | 98.1 | 97.1 | 98.5 | 98.9 | 101.7 | 104.4 | 107.9 | 108.7 | 104.1 | 106.0 |
| 12500 | 102.0 | 100.5 | 100.7 | 100.3 | 102.0 | 101.7 | 103.1 | 107.1 | 110.2 | 109.4 | 106.3 | 108.0 | 149.5 |
| 10000 | 102.2 | 103.1 | 101.7 | 101.5 | 101.2 | 103.1 | 102.9 | 104.9 | 108.4 | 111.7 | 110.9 | 108.2 | 150.0 |
| 8000 | 101.4 | 103.1 | 101.4 | 101.7 | 102.2 | 103.6 | 104.7 | 106.5 | 110.6 | 113.4 | 113.1 | 109.2 | 110.8 |
| 6300 | 102.6 | 103.0 | 101.6 | 102.4 | 103.0 | 104.6 | 104.8 | 107.4 | 111.3 | 114.6 | 113.9 | 110.6 | 111.1 |
| 5000 | 104.3 | 103.8 | 102.7 | 103.0 | 104.7 | 105.8 | 106.0 | 111.6 | 115.1 | 115.4 | 111.5 | 111.6 | 152.1 |
| 4000 | 104.6 | 106.0 | 104.2 | 104.5 | 103.6 | 105.7 | 106.9 | 108.0 | 112.3 | 116.4 | 116.1 | 112.2 | 152.9 |
| 3150 | 106.5 | 107.6 | 106.4 | 107.2 | 105.7 | 107.5 | 108.8 | 113.1 | 117.5 | 117.8 | 113.4 | 114.3 | 154.0 |
| 2500 | 107.5 | 108.7 | 107.7 | 105.8 | 106.3 | 104.8 | 106.0 | 112.2 | 118.4 | 119.4 | 115.4 | 115.4 | 154.7 |
| 2000 | 109.9 | 107.8 | 105.8 | 103.3 | 103.3 | 102.9 | 103.1 | 104.7 | 111.7 | 118.7 | 119.8 | 115.8 | 154.8 |
| 1600 | 103.4 | 105.4 | 102.6 | 101.5 | 102.1 | 102.8 | 104.1 | 104.5 | 112.4 | 119.7 | 121.2 | 116.5 | 155.6 |
| 1250 | 101.5 | 101.3 | 99.4 | 99.1 | 101.6 | 101.3 | 102.2 | 111.2 | 118.3 | 122.4 | 117.4 | 116.2 | 155.5 |
| 1000 | 99.9 | 98.4 | 97.6 | 97.4 | 99.4 | 100.7 | 102.1 | 109.7 | 117.8 | 121.8 | 117.3 | 116.3 | 155.0 |
| 800 | 97.5 | 98.8 | 97.1 | 96.2 | 97.2 | 98.3 | 98.5 | 101.1 | 108.1 | 117.8 | 121.1 | 118.2 | 154.7 |
| 630 | 95.9 | 96.9 | 95.7 | 95.5 | 96.7 | 97.3 | 98.8 | 101.5 | 107.1 | 116.8 | 119.6 | 117.7 | 153.5 |
| 500 | 96.2 | 96.0 | 95.1 | 93.8 | 95.3 | 96.3 | 97.8 | 100.2 | 107.1 | 116.1 | 119.0 | 117.3 | 153.0 |
| 400 | 93.8 | 95.0 | 93.1 | 92.3 | 93.6 | 95.1 | 96.5 | 99.6 | 106.2 | 114.2 | 116.9 | 117.3 | 151.7 |
| 315 | 92.9 | 95.3 | 93.3 | 92.6 | 94.1 | 94.9 | 94.9 | 105.5 | 111.9 | 114.0 | 115.7 | 114.2 | 149.8 |
| 250 | 92.9 | 95.3 | 93.3 | 92.3 | 92.6 | 92.8 | 93.5 | 98.7 | 105.6 | 108.4 | 111.8 | 112.8 | 145.7 |

ORIGINAL PAGE IS
OF POOR QUALITY

| | | | | | | | | | | | |
|----------|----------|--------------|------------|----------------|----------------|------------|---------|---------|---------|--------|--------------|
| VEHICLE | = ADH043 | TEST DATE | = 08-19-81 | LOCAT | = C41 ANECH CH | CONFID | = 4 | MODEL | = 4 | FLTVEL | = 400. FPS |
| IAPLHA | = SB59 | IEGA | = NO | PWL AREA | = FULL SPHERE | TAMB F | = 80.00 | PAMB HG | = 29.60 | RELHUM | = 44.5 PCT |
| WIND DIR | = | DEG WIND VEL | = | EXT DIST | = 40.0 FT | EXT CONFID | = ARC | MIKE HT | = | NBFR | = |
| FNIN1 | = | LBS XNL | = | RPM | = | XNH | = | RPM | = | V8 | = 2410.3 FPS |
| FNRAMB | = | LBS XNLR | = | RPM | = | XNHR | = | RPM | = | V18 | = |
| NC | = | 861 | | CORR FAN SPEED | = | RPM | | | | | |
| RUNPT | = | 400-0412 | TAPE | = | X0412F | TEST PT NO | = | 041 | | | |

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-0412 X04121

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

| | | | | | | | | | | | | | | | |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| 50 | 71.8 | 74.5 | 73.7 | 73.6 | 75.3 | 77.0 | 78.2 | 79.5 | 81.5 | 87.7 | 95.6 | 96.9 | 93.1 | 87.2 | 169.1 |
| 63 | 74.1 | 75.5 | 75.6 | 75.1 | 77.0 | 78.2 | 79.5 | 81.5 | 87.7 | 95.6 | 96.9 | 93.1 | 87.2 | 170.4 | |
| 80 | 73.8 | 76.3 | 76.3 | 78.4 | 79.1 | 80.5 | 82.7 | 87.6 | 93.3 | 97.6 | 93.3 | 86.1 | 170.9 | | |
| 100 | 75.3 | 78.2 | 77.6 | 77.4 | 78.8 | 80.0 | 80.1 | 82.3 | 88.6 | 97.2 | 98.9 | 93.8 | 88.5 | 172.1 | |
| 125 | 77.6 | 77.7 | 78.0 | 78.5 | 79.8 | 81.1 | 82.2 | 83.2 | 90.1 | 97.1 | 99.6 | 92.7 | 88.2 | 172.4 | |
| 160 | 79.0 | 80.4 | 79.7 | 80.1 | 83.1 | 83.2 | 82.7 | 84.2 | 91.4 | 97.5 | 99.9 | 92.6 | 87.7 | 173.0 | |
| 200 | 80.6 | 84.3 | 82.6 | 83.4 | 84.3 | 85.4 | 85.5 | 86.6 | 92.5 | 98.6 | 98.5 | 91.4 | 88.4 | 173.0 | |
| 250 | 86.8 | 86.4 | 85.6 | 84.0 | 84.4 | 84.1 | 84.2 | 85.4 | 91.6 | 97.4 | 96.7 | 90.3 | 86.6 | 172.2 | |
| 315 | 84.1 | 87.0 | 87.2 | 86.2 | 87.1 | 85.8 | 85.6 | 86.3 | 91.7 | 96.7 | 96.0 | 88.3 | 85.0 | 172.1 | |
| 400 | 82.6 | 85.5 | 85.6 | 87.2 | 88.2 | 88.3 | 86.0 | 87.2 | 92.3 | 95.4 | 86.6 | 82.9 | 171.4 | | |
| 500 | 80.1 | 83.5 | 83.0 | 84.2 | 83.8 | 86.1 | 87.2 | 87.8 | 91.2 | 93.9 | 91.7 | 84.8 | 80.2 | 170.3 | |
| 630 | 79.3 | 81.1 | 82.3 | 82.2 | 83.0 | 84.8 | 85.8 | 87.4 | 90.1 | 92.3 | 90.5 | 83.4 | 78.2 | 169.6 | |
| 800 | 77.2 | 79.7 | 79.8 | 81.6 | 82.7 | 84.5 | 84.6 | 86.6 | 89.5 | 91.3 | 88.5 | 81.8 | 76.6 | 169.0 | |
| 1000 | 75.5 | 79.6 | 79.4 | 80.7 | 81.7 | 83.4 | 84.3 | 85.5 | 88.6 | 89.8 | 87.3 | 79.7 | 75.1 | 168.5 | |
| 1250 | 75.8 | 79.2 | 79.4 | 80.3 | 80.6 | 82.4 | 83.8 | 86.2 | 87.8 | 84.6 | 77.9 | 71.3 | 167.5 | | |
| 1600 | 74.7 | 77.5 | 77.9 | 79.2 | 81.3 | 80.8 | 81.6 | 84.4 | 85.8 | 82.1 | 74.7 | 68.5 | 167.0 | | |
| 2000 | 71.4 | 75.0 | 76.3 | 76.3 | 76.1 | 77.8 | 77.9 | 79.9 | 81.3 | 82.9 | 80.5 | 70.9 | 63.5 | 166.3 | |
| 2500 | 63.4 | 68.6 | 70.3 | 71.7 | 73.1 | 75.0 | 75.4 | 75.8 | 77.5 | 79.8 | 75.3 | 65.6 | 53.9 | 165.1 | |
| 3150 | 59.9 | 64.8 | 66.9 | 68.4 | 68.6 | 71.4 | 71.3 | 70.1 | 73.8 | 74.9 | 69.2 | 56.9 | 41.5 | 164.9 | |
| 4000 | 48.4 | 56.2 | 58.6 | 60.2 | 61.5 | 64.4 | 64.3 | 63.6 | 67.5 | 68.3 | 62.3 | 44.8 | 23.0 | 165.8 | |
| 5000 | 33.0 | 43.7 | 47.8 | 50.4 | 53.1 | 55.9 | 55.2 | 55.0 | 57.7 | 61.2 | 50.2 | 27.4 | | 168.2 | |
| 6300 | 10.1 | 24.7 | 31.8 | 35.0 | 38.5 | 41.4 | 40.9 | 38.8 | 44.7 | 47.0 | 32.5 | 0.3 | | 172.1 | |
| 8000 | | 4.4 | 10.7 | 17.0 | 18.9 | 19.0 | 15.5 | 22.2 | 16.4 | | | | | 172.7 | |
| 10000 | | | | | | | | | | | | | | | 170.0 |

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OF POOR QUALITY

MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9
NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

QASPL 92.1 94.2 94.0 94.2 94.8 95.8 96.0 97.1 102.1 107.4 108.0 102.2 97.3 184.2
PWL 97.7 100.0 100.3 101.0 101.2 102.8 102.6 103.5 107.9 111.7 110.7 103.7 99.1
PWL 98.4 100.0 100.9 101.0 101.2 102.8 102.6 103.5 108.4 112.6 110.7 104.8 99.1
DBA 86.9 89.5 89.7 90.4 90.8 92.4 92.5 93.7 97.2 100.0 98.5 91.4 87.0

VEHICL = ADH043 TEST DATE = 08-19-81
IAPLHA = SB59 IEGA / = NO
WIND DIR = DEG WIND VEL = MPH
EXT AREA = FULL SPHERE PWL AREA = 2400.0 FT
EXT CONFIG = SL
TAMB F = 80.00
PAMB HG = 29.60
MODEL = 4
FLTVEL = 400. FPS
RELHUM = 44.5 PCT
NBFR =

FNINI = LBS XNL RPM XNHR =
LBS XNL RPM V8 = 2410.3 FPS AE8 = 25.3 SQ IN
FNRMB = FPS AE8 = 0. SQ IN

RUNPT = 81F-400-0412 TAPE = X04121
TEST PT NO = 0412 NC = 861
CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-0413 X0413C

BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

| | | | | | | | | | | | | | | | |
|---|-------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| 50 | 86.2 | 85.7 | 83.0 | 82.5 | 83.6 | 88.0 | 87.1 | 88.8 | 90.0 | 97.1 | 97.2 | 96.4 | 97.0 | 133.7 | PUL |
| 63 | 89.0 | 88.8 | 88.5 | 89.6 | 91.2 | 93.0 | 91.9 | 91.3 | 95.3 | 99.9 | 99.5 | 98.2 | 100.3 | 136.9 | |
| 80 | 92.0 | 96.8 | 91.3 | 92.1 | 93.2 | 96.3 | 96.0 | 95.4 | 96.6 | 96.4 | 98.5 | 101.0 | 103.1 | 138.6 | |
| 100 | 92.1 | 98.1 | 93.1 | 94.4 | 95.7 | 97.1 | 98.0 | 98.9 | 97.4 | 99.7 | 100.8 | 105.0 | 106.7 | 141.2 | |
| 125 | 88.4 | 91.4 | 92.7 | 94.4 | 95.5 | 98.4 | 98.0 | 97.7 | 98.9 | 102.0 | 108.1 | 109.8 | 110.7 | 144.4 | |
| 160 | 87.8 | 87.8 | 89.8 | 90.9 | 90.7 | 93.3 | 95.0 | 95.9 | 98.6 | 103.2 | 108.0 | 110.2 | 113.4 | 145.0 | |
| 200 | 89.3 | 88.3 | 89.3 | 90.6 | 93.0 | 96.1 | 96.5 | 97.9 | 102.6 | 105.2 | 109.3 | 113.5 | 115.6 | 147.4 | |
| 250 | 88.8 | 92.8 | 92.1 | 94.1 | 94.5 | 95.8 | 98.0 | 100.6 | 104.1 | 110.4 | 115.3 | 117.6 | 121.1 | 151.1 | |
| 315 | 90.1 | 91.9 | 91.9 | 92.4 | 94.5 | 97.9 | 100.0 | 101.9 | 106.9 | 113.5 | 116.1 | 118.8 | 120.2 | 152.4 | |
| 400 | 92.1 | 93.9 | 93.9 | 94.7 | 95.5 | 98.9 | 101.3 | 105.7 | 113.1 | 118.7 | 120.6 | 120.5 | 124.4 | 155.7 | |
| 500 | 91.7 | 94.2 | 94.0 | 95.5 | 97.1 | 98.8 | 101.4 | 104.8 | 111.0 | 118.6 | 120.6 | 117.8 | 125.6 | 155.6 | |
| 630 | 93.3 | 95.6 | 95.1 | 96.4 | 97.7 | 99.9 | 102.2 | 106.4 | 112.4 | 121.2 | 122.8 | 119.4 | 127.3 | 157.3 | |
| 800 | 97.7 | 96.5 | 96.5 | 97.5 | 99.4 | 101.5 | 103.6 | 106.3 | 113.0 | 121.6 | 122.7 | 121.4 | 127.8 | 157.4 | |
| 1000 | 101.7 | 101.7 | 100.3 | 99.8 | 100.9 | 102.8 | 104.9 | 107.5 | 114.0 | 121.8 | 123.2 | 120.6 | 127.3 | 157.6 | |
| 1250 | 100.7 | 105.3 | 103.3 | 103.8 | 103.9 | 103.8 | 105.7 | 109.3 | 114.3 | 122.1 | 123.2 | 119.4 | 127.3 | 157.6 | |
| 1600 | 105.2 | 102.8 | 102.6 | 103.1 | 102.9 | 104.3 | 107.0 | 109.4 | 115.1 | 122.2 | 122.6 | 118.2 | 127.3 | 157.3 | |
| 2000 | 105.2 | 105.6 | 104.2 | 103.6 | 102.9 | 104.6 | 106.4 | 109.4 | 115.7 | 122.9 | 120.5 | 116.6 | 127.3 | 157.0 | |
| 2500 | 103.6 | 104.2 | 105.0 | 105.3 | 105.4 | 107.0 | 110.1 | 114.9 | 120.6 | 118.0 | 113.4 | 109.5 | 155.1 | | |
| 3150 | 102.5 | 103.1 | 102.3 | 103.6 | 105.2 | 107.0 | 110.1 | 114.9 | 120.6 | 118.0 | 113.4 | 109.5 | 155.1 | | |
| 4000 | 100.7 | 101.5 | 101.3 | 102.8 | 103.6 | 106.3 | 108.2 | 110.8 | 114.7 | 119.5 | 116.0 | 112.2 | 108.6 | 154.2 | |
| 5000 | 99.4 | 100.7 | 100.5 | 101.5 | 103.2 | 105.7 | 107.3 | 109.9 | 113.6 | 117.8 | 114.8 | 110.9 | 107.5 | 153.1 | |
| 6300 | 97.8 | 100.6 | 100.6 | 100.6 | 102.9 | 105.6 | 106.9 | 110.1 | 112.6 | 117.0 | 113.8 | 110.5 | 106.1 | 152.6 | |
| 8000 | 96.2 | 98.6 | 98.9 | 99.8 | 101.5 | 104.4 | 106.7 | 108.9 | 111.4 | 116.2 | 112.1 | 108.4 | 105.0 | 151.9 | |
| 10000 | 95.3 | 97.0 | 98.3 | 99.8 | 101.1 | 103.8 | 104.7 | 108.0 | 110.2 | 115.0 | 111.5 | 107.4 | 104.1 | 151.4 | |
| 12500 | 93.4 | 95.6 | 96.7 | 97.7 | 100.2 | 102.4 | 103.9 | 105.4 | 109.3 | 113.3 | 110.1 | 105.4 | 101.5 | 150.6 | |
| 16000 | 90.4 | 93.6 | 94.4 | 95.7 | 97.3 | 99.7 | 101.9 | 104.4 | 107.0 | 110.9 | 107.0 | 102.8 | 99.5 | 149.7 | |
| 20000 | 88.3 | 90.8 | 91.7 | 93.4 | 94.7 | 98.0 | 99.6 | 101.7 | 104.3 | 108.7 | 105.6 | 100.2 | 96.6 | 149.2 | |
| 25000 | 84.2 | 87.9 | 87.9 | 89.4 | 92.3 | 95.8 | 97.1 | 97.6 | 101.6 | 106.1 | 102.7 | 98.6 | 92.6 | 148.8 | |
| 31500 | 79.2 | 83.6 | 84.1 | 85.0 | 88.5 | 91.8 | 93.0 | 95.7 | 99.4 | 103.6 | 101.3 | 95.1 | 88.2 | 149.4 | |
| 40000 | 74.6 | 78.9 | 80.5 | 81.4 | 84.3 | 87.9 | 89.5 | 92.4 | 97.1 | 101.5 | 99.0 | 92.7 | 84.4 | 151.0 | |
| 50000 | 69.9 | 74.0 | 74.7 | 76.6 | 79.1 | 84.1 | 85.1 | 88.1 | 94.1 | 101.1 | 97.8 | 90.2 | 78.4 | 153.9 | |
| 63000 | 63.9 | 69.5 | 69.6 | 72.3 | 75.6 | 79.0 | 80.8 | 84.0 | 92.1 | 99.4 | 96.3 | 86.8 | 74.3 | 157.3 | |
| 80000 | 58.7 | 65.9 | 65.5 | 66.3 | 69.4 | 74.3 | 76.2 | 79.5 | 90.2 | 94.4 | 93.7 | 83.9 | 66.6 | 160.3 | |
| GASPL | 112.8 | 113.8 | 113.1 | 113.7 | 114.7 | 116.7 | 118.3 | 121.0 | 125.8 | 132.5 | 132.4 | 130.4 | 128.2 | 169.3 | |
| PNLT | 125.6 | 127.2 | 126.2 | 127.0 | 128.1 | 130.5 | 131.5 | 134.1 | 138.5 | 144.9 | 143.7 | 140.4 | 137.3 | | |
| DBA | 113.3 | 113.9 | 113.2 | 113.8 | 114.6 | 116.3 | 117.9 | 120.7 | 125.6 | 132.5 | 131.9 | 129.1 | 125.9 | | |
| NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514 | | | | | | | | | | | | | | | |
| VEHICL | = ADH027 TEST DATE = 08-19-81 | | | | | | | | | | | | | | |
| IAPLHA | = SB59 | | | | | | | | | | | | | | |
| WIND DIR | = DEG WIND YEL = MPH | | | | | | | | | | | | | | |
| LOCAT | = C41 ANECH CH | | | | | | | | | | | | | | |
| CONFIG | = 4 | | | | | | | | | | | | | | |
| TAMB F | = 70.00 | | | | | | | | | | | | | | |
| EXT CONFIG | = ARC | | | | | | | | | | | | | | |
| MIKE HT | = 29.60 | | | | | | | | | | | | | | |
| RELHUM | = 57.9 PCT | | | | | | | | | | | | | | |
| FLTVEL | = 0. FPS | | | | | | | | | | | | | | |
| FNIN1 | = LBS XNLR | | | | | | | | | | | | | | |
| FNRAMB | = LBS XNLR | | | | | | | | | | | | | | |
| RUNPT | = 81F-ZER-0413 TAPE | | | | | | | | | | | | | | |
| X0413C | | | | | | | | | | | | | | | |
| TEST PT NO | = 0413 | | | | | | | | | | | | | | |
| NC | = 861 | | | | | | | | | | | | | | |
| CORR FAN SPEED | = RPM | | | | | | | | | | | | | | |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-0413 X0413F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 86.2 85.7 83.0 82.5 83.6 88.0 87.1 88.8 90.0 97.1 97.2 96.4 97.0 133.7

63 89.0 88.8 88.5 89.6 91.2 93.0 91.9 91.3 95.3 99.9 99.5 98.2 100.3 136.9

80 92.0 96.8 91.3 92.1 93.2 96.3 96.0 95.4 98.6 98.4 98.5 98.2 100.8 138.6

100 92.1 98.1 93.1 94.4 95.7 97.1 98.0 98.9 98.9 97.4 99.7 100.8 105.0 141.2

125 88.4 91.4 92.7 94.4 95.5 98.4 98.0 97.7 98.9 102.0 108.1 109.8 110.7 144.4

160 87.8 87.8 89.8 90.9 90.7 93.3 95.0 98.9 98.6 103.2 108.0 110.2 113.4 145.0

200 89.3 88.3 89.3 90.6 93.0 96.1 96.5 97.9 102.6 105.2 109.3 113.5 115.6 147.4

250 88.8 88.8 92.1 94.1 94.5 95.8 98.0 100.6 104.1 110.4 115.3 117.5 119.6 151.1

315 90.1 91.9 92.4 94.5 97.9 100.0 101.9 106.9 113.5 116.1 118.8 118.2 152.4

400 92.1 93.9 94.7 95.5 98.9 101.3 105.7 113.1 118.7 120.6 120.6 118.4 155.7

500 91.7 94.2 94.0 95.5 97.1 98.8 101.4 104.8 111.0 118.6 121.0 120.6 117.8 155.6

630 93.3 95.6 95.1 96.4 97.7 99.9 102.2 106.4 112.4 121.2 122.8 121.2 119.4 157.3

800 97.7 96.5 96.5 97.5 99.4 101.5 103.6 106.3 113.0 121.6 122.7 121.4 117.8 157.4

1000 101.7 100.3 99.8 100.9 102.8 104.9 107.5 114.0 121.8 123.2 120.6 117.3 157.6

1250 100.7 105.3 103.5 103.3 103.9 103.8 105.7 108.3 114.3 122.1 123.2 119.4 157.6

1600 105.2 102.8 102.6 103.1 102.9 104.3 107.0 109.4 115.1 122.2 122.6 118.2 157.3

2000 103.6 104.2 104.2 105.0 105.3 105.4 107.0 110.0 114.6 122.8 122.9 118.9 156.4

2500 103.6 104.2 104.2 105.0 105.3 105.4 107.0 110.0 114.6 122.8 122.9 118.9 156.4

3150 102.5 103.1 102.3 103.6 105.2 107.0 107.1 110.1 114.9 120.6 118.0 113.4 109.5 155.1

4000 100.7 101.5 101.3 102.8 103.6 105.7 107.3 109.9 113.6 117.8 114.8 110.9 107.5 153.1

5000 99.4 100.7 100.5 101.5 103.2 105.7 107.3 109.9 113.6 117.8 114.8 110.9 107.5 153.1

6300 97.8 100.6 100.2 100.5 102.9 105.6 106.9 110.1 112.6 117.0 113.8 110.5 106.1 152.6

8000 96.2 98.6 98.9 99.8 101.5 104.4 106.7 108.9 111.4 116.2 112.1 108.4 105.0 151.9

10000 95.3 97.8 98.8 99.8 101.1 103.8 106.2 108.0 110.2 115.0 111.5 107.4 104.1 151.4

12500 93.4 95.6 96.7 97.7 100.2 102.4 103.9 105.4 109.3 113.3 110.1 105.4 101.5 150.6

16000 90.4 93.6 94.4 95.7 97.3 99.7 101.9 104.4 107.0 110.9 107.0 102.8 99.5 149.7

20000 88.3 90.8 91.7 93.4 94.7 96.0 99.6 101.7 104.3 108.7 105.6 100.6 96.6 149.2

25000 84.2 87.9 87.9 89.4 92.3 95.8 97.1 97.6 101.6 106.1 102.7 98.6 92.6 148.8

31500 79.2 83.6 84.1 85.0 86.5 89.8 93.0 95.7 99.4 103.6 101.3 95.1 88.2 149.4

40000 74.6 78.9 80.5 81.4 84.3 87.9 89.5 92.4 97.1 101.5 99.0 92.7 84.4 151.0

50000 69.9 74.0 76.6 76.6 79.1 84.1 85.1 88.1 94.1 97.8 96.3 86.8 74.3 157.3

63000 63.9 69.5 69.6 72.3 75.6 79.0 80.8 84.0 92.1 99.4 96.3 86.8 74.3 157.3

80000 58.7 65.9 65.5 66.3 69.4 74.3 76.2 79.5 90.2 94.4 93.7 83.9 66.6 160.3

QASPL 112.8 113.8 113.1 113.7 114.7 116.7 118.3 121.0 125.8 132.5 132.4 130.4 128.2 169.3

FNL 125.6 126.5 126.2 127.0 128.1 130.0 131.5 134.1 138.5 144.9 143.1 140.4 137.3

FNL 125.6 127.2 126.2 127.0 128.1 130.5 131.5 134.1 139.2 144.9 143.7 140.4 137.3

DBA 180.5 187.1 186.9 188.2 191.3 195.9 197.6 200.9 210.9 215.7 214.6 204.8 189.2

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0 , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH027 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CNFIO = 4 MODEL = 4 FLVEL = 0. FPS
IAPLHA = SB59 IEQA' = NO PWL AREA = FULL SPHERE TAMB F = 70.00 PAMB HG = 29.60 RELHUM = 57.9 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIO = ARC MIKE HT = NBRF =

FNINI = LBS XNLR = RPM XNHR = RPM V8 = 2417.9 FPS AE8 = 25.3 SQ IN
FNAMB = LBS XNLR = RPM XNHR = RPM V8 = 2417.9 FPS AE8 = 25.3 SQ IN

RUNPT = 81F-ZER-0413 TAPE = X0413F TEST PT NO = 0413 NC = 861 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-0413 X04131

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 70.1 73.4 74.5 76.0 77.2 80.7 83.0 87.0 93.7 98.2 98.6 96.3 90.9 173.1

63 69.7 73.7 74.6 76.8 78.8 80.6 83.1 86.1 91.6 98.1 98.9 96.4 90.2 173.0

80 71.2 75.1 75.7 77.7 79.4 81.7 83.9 87.7 92.9 100.6 100.7 96.9 91.7 174.8

100 75.5 75.9 77.0 78.8 81.0 83.3 85.3 87.5 93.5 101.0 100.5 97.0 89.9 174.8

125 79.4 81.0 80.7 80.9 82.4 84.4 86.4 88.7 94.4 101.1 100.9 96.1 89.2 175.0

160 78.2 84.4 83.8 84.3 85.3 85.3 87.1 89.3 94.5 101.2 100.8 94.6 87.0 175.0

200 82.5 81.7 82.6 83.9 84.2 85.7 88.3 90.3 95.1 101.2 99.9 93.0 85.0 174.8

250 82.1 84.2 84.1 84.2 85.3 86.1 86.4 87.5 90.0 95.6 101.6 97.5 91.0 174.4

315 80.2 82.5 83.8 85.3 86.1 86.4 87.8 90.3 94.2 101.1 95.4 89.1 80.6 173.9

400 78.5 81.0 81.5 83.6 85.7 87.7 87.6 90.1 94.1 98.5 94.0 86.7 78.2 172.6

500 76.3 79.0 80.1 82.5 83.8 86.7 88.4 90.5 93.5 97.0 91.5 84.7 76.2 171.7

630 74.5 77.9 79.1 81.0 83.2 85.8 87.3 89.3 92.2 95.0 89.9 82.8 74.0 170.5

800 72.4 77.3 78.5 79.7 82.6 85.5 86.6 89.3 90.8 93.7 88.3 81.7 71.6 170.0

1000 70.4 75.1 76.9 78.8 81.1 84.1 86.3 87.9 89.4 92.7 86.2 79.0 69.2 169.3

1250 68.9 73.2 76.1 78.6 80.5 83.4 84.1 86.8 87.9 91.2 85.1 77.1 66.9 168.8

1500 66.2 71.2 74.0 76.2 79.3 81.8 83.0 83.9 86.6 88.8 82.8 73.8 62.0 168.1

1600 66.2 71.2 74.0 76.2 79.3 81.8 83.0 83.9 86.6 88.8 82.8 73.8 62.0 168.1

2000 62.2 68.6 71.3 73.9 76.2 78.9 80.8 82.7 84.0 85.9 78.7 69.5 57.0 167.1

2500 58.3 64.5 67.8 71.0 73.1 76.7 78.0 79.3 80.4 82.4 75.6 64.1 49.1 166.6

3150 50.8 59.1 62.1 65.5 69.3 73.2 74.2 73.6 75.8 77.4 69.3 57.5 36.7 166.2

4000 39.6 50.1 54.5 57.8 62.5 66.3 67.0 68.5 69.8 70.2 61.7 45.2 17.8 166.9

5000 25.2 37.8 48.7 53.4 57.5 58.6 59.8 61.2 60.5 49.7 29.0 2.4

6300 2.8 18.7 26.8 33.1 38.1 43.8 44.1 44.6 46.2 45.9 30.6

8000 174.8 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3

10000 174.8 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3

12500 174.8 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3

15000 174.8 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3

17500 174.8 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3

20000 174.8 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3

22500 174.8 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3

25000 174.8 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3

27500 174.8 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3

30000 174.8 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3

32500 174.8 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3

35000 174.8 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3

37500 174.8 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3

40000 174.8 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3 171.3

ORIGINAL PAGE 12
OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

DATPROC - FLTRAN

06/18/82 17.409 PAGE 1

IDENTIFICATION - MODEL
81F-400-0414 X0414C
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

FREE 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

| | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 88.9 | 87.7 | 83.5 | 83.5 | 84.5 | 86.9 | 87.8 | 89.5 | 96.3 | 97.7 | 96.9 | 99.0 | 133.9 |
| 63 | 90.0 | 89.8 | 88.1 | 89.9 | 90.8 | 91.7 | 91.8 | 94.3 | 100.1 | 100.0 | 99.2 | 100.6 | 137.0 |
| 80 | 92.8 | 91.6 | 91.6 | 92.6 | 94.0 | 96.6 | 97.7 | 96.4 | 97.2 | 99.1 | 103.8 | 105.7 | 139.8 |
| 100 | 91.6 | 96.3 | 92.1 | 93.2 | 94.0 | 96.6 | 97.7 | 96.4 | 97.2 | 99.1 | 103.8 | 105.7 | 139.8 |
| 125 | 88.6 | 91.6 | 91.9 | 93.4 | 94.8 | 96.9 | 96.8 | 96.9 | 97.2 | 105.6 | 108.3 | 110.2 | 142.9 |
| 150 | 87.5 | 88.8 | 89.1 | 89.2 | 91.1 | 92.2 | 93.1 | 96.1 | 100.4 | 106.0 | 108.7 | 112.1 | 143.4 |
| 200 | 86.5 | 86.8 | 87.1 | 87.6 | 89.5 | 92.1 | 93.2 | 95.9 | 99.3 | 101.2 | 106.0 | 111.2 | 145.0 |
| 250 | 85.5 | 86.3 | 86.6 | 87.0 | 89.4 | 91.2 | 93.3 | 95.0 | 97.4 | 100.1 | 106.4 | 112.0 | 148.4 |
| 315 | 86.3 | 89.1 | 88.6 | 89.4 | 91.3 | 94.4 | 96.5 | 98.2 | 102.4 | 110.2 | 113.8 | 115.4 | 149.8 |
| 400 | 88.6 | 90.1 | 90.7 | 91.8 | 95.4 | 98.0 | 101.4 | 107.4 | 114.5 | 117.6 | 118.0 | 118.9 | 152.2 |
| 500 | 88.5 | 90.1 | 90.5 | 92.0 | 94.1 | 96.0 | 98.9 | 102.5 | 108.3 | 116.3 | 119.2 | 117.6 | 153.1 |
| 630 | 90.3 | 92.6 | 93.2 | 94.7 | 97.4 | 99.7 | 103.9 | 109.4 | 116.7 | 121.6 | 117.5 | 109.9 | 154.8 |
| 800 | 92.7 | 93.0 | 93.8 | 95.9 | 98.3 | 99.4 | 103.8 | 109.3 | 118.8 | 121.2 | 116.1 | 106.8 | 154.5 |
| 1000 | 96.5 | 97.8 | 96.8 | 97.7 | 99.5 | 101.7 | 104.8 | 110.0 | 119.3 | 122.2 | 115.4 | 106.3 | 155.2 |
| 1250 | 98.7 | 98.0 | 99.5 | 100.1 | 100.9 | 101.3 | 102.4 | 105.6 | 111.0 | 120.1 | 122.7 | 114.9 | 155.8 |
| 1500 | 103.3 | 102.8 | 101.8 | 101.4 | 100.4 | 102.3 | 104.3 | 107.1 | 113.2 | 120.9 | 121.8 | 113.9 | 156.1 |
| 2000 | 101.4 | 104.3 | 103.7 | 102.9 | 102.0 | 102.1 | 103.7 | 107.0 | 112.1 | 119.7 | 123.4 | 113.9 | 156.9 |
| 2500 | 99.4 | 101.0 | 101.2 | 103.0 | 103.8 | 104.2 | 105.0 | 107.3 | 112.6 | 119.8 | 119.2 | 105.0 | 154.4 |
| 3150 | 97.0 | 99.1 | 98.3 | 100.4 | 102.0 | 105.8 | 105.7 | 107.1 | 112.7 | 117.0 | 116.2 | 108.9 | 153.9 |
| 4000 | 96.7 | 97.3 | 98.6 | 99.9 | 99.9 | 103.6 | 108.1 | 108.4 | 111.9 | 116.1 | 115.3 | 107.4 | 151.6 |
| 5000 | 94.9 | 96.8 | 96.5 | 97.5 | 99.5 | 101.9 | 104.3 | 108.4 | 111.9 | 116.1 | 115.3 | 107.4 | 151.6 |
| 6300 | 93.9 | 96.3 | 96.3 | 97.0 | 99.4 | 102.1 | 104.4 | 107.6 | 111.4 | 115.0 | 114.3 | 107.3 | 151.0 |
| 8000 | 92.8 | 94.9 | 96.3 | 97.6 | 101.1 | 103.2 | 106.7 | 109.9 | 114.0 | 112.6 | 111.8 | 105.0 | 149.7 |
| 10000 | 92.1 | 93.6 | 95.6 | 97.1 | 101.1 | 102.2 | 105.5 | 109.7 | 112.6 | 111.6 | 105.0 | 98.3 | 148.5 |
| 12500 | 90.0 | 91.7 | 93.0 | 93.5 | 96.2 | 99.2 | 100.7 | 103.2 | 107.6 | 110.4 | 109.9 | 103.2 | 148.5 |
| 15000 | 87.3 | 90.0 | 90.4 | 91.0 | 93.3 | 96.3 | 98.2 | 101.8 | 105.6 | 107.3 | 107.3 | 101.1 | 147.7 |
| 20000 | 85.4 | 86.4 | 87.6 | 89.1 | 90.8 | 94.1 | 96.2 | 98.6 | 102.2 | 105.6 | 105.0 | 98.8 | 146.7 |
| 25000 | 80.4 | 83.9 | 84.1 | 85.4 | 86.5 | 91.8 | 93.6 | 94.6 | 99.4 | 103.4 | 101.4 | 96.0 | 146.2 |
| 31500 | 76.1 | 79.5 | 79.8 | 81.1 | 83.8 | 87.7 | 89.8 | 91.6 | 96.6 | 101.6 | 99.0 | 91.8 | 146.9 |
| 40000 | 72.0 | 74.9 | 76.3 | 77.1 | 78.0 | 81.0 | 84.0 | 86.0 | 90.8 | 97.9 | 97.8 | 87.8 | 148.0 |
| 50000 | 67.2 | 70.6 | 72.7 | 75.9 | 79.6 | 81.4 | 83.0 | 85.0 | 90.8 | 95.7 | 84.0 | 73.2 | 151.0 |
| 63000 | 68.1 | 68.6 | 67.2 | 69.2 | 71.7 | 74.6 | 77.9 | 79.1 | 88.4 | 95.0 | 93.3 | 79.3 | 153.3 |
| 80000 | 59.3 | 59.3 | 67.2 | 65.7 | 64.8 | 66.6 | 69.3 | 72.4 | 73.8 | 85.9 | 92.7 | 90.4 | 157.6 |
| CASPL | 109.5 | 111.2 | 110.5 | 111.0 | 111.9 | 114.1 | 115.6 | 118.5 | 123.3 | 130.0 | 131.8 | 127.0 | 167.1 |
| PWL | 121.9 | 124.0 | 123.5 | 124.4 | 125.4 | 127.9 | 128.9 | 131.5 | 136.1 | 142.3 | 143.4 | 137.2 | 131.5 |
| PMLT | 122.9 | 124.0 | 123.5 | 124.4 | 125.4 | 127.9 | 128.9 | 131.5 | 136.1 | 142.3 | 143.4 | 137.2 | 131.5 |
| DBA | 109.7 | 111.3 | 110.7 | 111.2 | 111.9 | 113.9 | 115.4 | 118.2 | 123.2 | 130.1 | 131.7 | 125.2 | 118.6 |

NASA SHOCK CELL/ANNUAL C-D PLUG NO2. SC-4/NAS3-22514

VEHICL = ADH044 TEST DATE = 08-19-81
IAPLHA = SB59
WIND DIR = DEG WIND VEL = MPH
LOCAT = C41 ANECH CH
PWL AREA = FULL SPHERE
EXT DIST = 40.0 FT
EXT CNFIG = ARC
TAMB F = 80.00
MIKE HT = 29.90
RELHUM = 44.4 PCT
FLVEL = 400. FPS
MODEL = 4
PAMB HG = 29.90
NBFR = 44.4 PCT
FININI = LBS XNL RPM XNHR = 2423.0 FPS AE8 = 25.3 SO IN
FNRAMB = LBS XNLR RPM XNHR = 2423.0 FPS AE8 = 25.3 SO IN
CORR FAN SPEED = RPM
RUNPT = 81F-400-0414 TAPE = X0414C
TEST PT NO = 0414
NC = 861
CORR FAN SPEED = RPM

ORIGINAL PAGE 10
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-0414 X0414F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.
PWL

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 200 | 93.4 | 95.8 | 93.5 | 93.7 | 92.8 | 93.3 | 93.1 | 93.8 | 98.9 | 105.8 | 108.9 | 112.1 | 112.8 | 145.9 |
| 250 | 93.4 | 95.8 | 93.5 | 93.7 | 92.8 | 93.3 | 93.1 | 93.8 | 98.9 | 105.8 | 108.9 | 112.1 | 112.8 | 145.9 |
| 315 | 93.4 | 95.8 | 93.5 | 93.7 | 92.8 | 93.3 | 93.1 | 93.8 | 98.9 | 105.8 | 108.9 | 112.1 | 112.8 | 145.9 |
| 400 | 94.0 | 95.5 | 93.6 | 92.8 | 95.6 | 95.6 | 97.2 | 99.6 | 106.4 | 114.1 | 117.1 | 117.0 | 114.8 | 151.7 |
| 500 | 96.3 | 95.5 | 95.1 | 96.0 | 96.3 | 98.0 | 98.0 | 100.6 | 107.3 | 116.3 | 119.4 | 117.5 | 114.7 | 153.3 |
| 630 | 96.1 | 96.9 | 96.0 | 95.5 | 96.7 | 97.8 | 98.8 | 101.7 | 107.6 | 116.8 | 119.7 | 117.5 | 114.4 | 153.5 |
| 800 | 98.0 | 99.0 | 97.4 | 96.7 | 97.9 | 98.8 | 98.5 | 101.6 | 108.8 | 118.0 | 121.5 | 118.2 | 116.6 | 155.0 |
| 1000 | 100.4 | 99.2 | 98.1 | 97.4 | 99.3 | 100.2 | 100.9 | 103.6 | 109.9 | 117.5 | 122.8 | 116.8 | 116.4 | 155.8 |
| 1250 | 101.6 | 102.2 | 100.4 | 99.5 | 102.6 | 102.1 | 103.6 | 111.1 | 118.5 | 122.8 | 122.8 | 116.8 | 116.4 | 155.8 |
| 1600 | 103.8 | 106.3 | 103.0 | 102.7 | 102.4 | 103.3 | 103.9 | 105.2 | 112.6 | 120.0 | 121.6 | 117.1 | 116.9 | 155.9 |
| 2000 | 109.7 | 108.1 | 105.9 | 104.3 | 104.1 | 103.6 | 103.6 | 105.7 | 112.4 | 119.4 | 115.8 | 116.4 | 116.4 | 155.0 |
| 2500 | 107.1 | 109.1 | 107.6 | 105.8 | 106.8 | 105.8 | 105.8 | 106.2 | 112.9 | 118.3 | 120.0 | 114.4 | 114.6 | 154.9 |
| 3150 | 107.0 | 107.6 | 106.7 | 107.2 | 105.8 | 106.3 | 106.5 | 113.6 | 117.5 | 117.3 | 113.3 | 114.0 | 113.9 | 153.9 |
| 4000 | 107.4 | 108.0 | 105.6 | 105.9 | 103.6 | 106.2 | 106.9 | 108.0 | 112.7 | 116.5 | 116.2 | 111.5 | 112.3 | 153.1 |
| 5000 | 104.3 | 104.0 | 103.0 | 103.2 | 103.5 | 104.0 | 105.8 | 108.5 | 112.3 | 115.4 | 111.7 | 111.8 | 112.4 | 152.4 |
| 6300 | 102.4 | 102.5 | 102.4 | 102.4 | 104.0 | 105.1 | 105.8 | 107.7 | 111.0 | 114.7 | 113.7 | 109.8 | 110.3 | 151.6 |
| 8000 | 104.0 | 105.2 | 103.6 | 102.8 | 102.2 | 104.1 | 104.7 | 106.7 | 111.1 | 113.6 | 109.9 | 110.7 | 111.5 | 151.5 |
| 10000 | 102.7 | 103.6 | 102.2 | 102.0 | 101.7 | 104.1 | 103.7 | 105.7 | 109.2 | 111.7 | 108.6 | 109.4 | 110.6 | 150.6 |
| 12500 | 101.7 | 102.0 | 101.3 | 101.0 | 100.8 | 102.2 | 102.2 | 103.4 | 107.7 | 110.3 | 109.6 | 107.3 | 107.8 | 149.8 |
| 16000 | 99.1 | 99.6 | 99.4 | 98.3 | 97.9 | 99.3 | 99.7 | 101.9 | 104.9 | 108.0 | 105.2 | 105.8 | 105.8 | 148.9 |
| 20000 | 96.0 | 97.4 | 96.5 | 95.5 | 95.4 | 97.1 | 97.7 | 98.8 | 102.5 | 106.1 | 104.7 | 102.6 | 101.8 | 148.1 |
| 25000 | 93.5 | 93.3 | 93.0 | 92.9 | 93.1 | 94.8 | 95.1 | 94.6 | 100.3 | 104.8 | 102.5 | 98.3 | 96.8 | 148.1 |
| 31500 | 87.7 | 90.0 | 88.7 | 88.5 | 88.4 | 90.7 | 91.3 | 91.6 | 98.6 | 102.0 | 102.2 | 95.2 | 93.4 | 148.8 |
| 40000 | 82.6 | 84.8 | 83.6 | 83.4 | 85.6 | 87.0 | 87.4 | 88.1 | 95.7 | 102.7 | 100.5 | 91.8 | 87.9 | 151.6 |
| 50000 | 78.0 | 79.7 | 79.1 | 78.9 | 80.5 | 82.6 | 82.9 | 83.0 | 94.3 | 100.4 | 99.1 | 88.1 | 83.7 | 153.7 |
| 63000 | 72.3 | 75.1 | 73.6 | 73.6 | 77.6 | 79.3 | 79.3 | 79.3 | 93.3 | 99.6 | 97.6 | 84.0 | 76.6 | 157.8 |
| 80000 | 69.0 | 68.7 | 67.2 | 67.5 | 71.1 | 72.3 | 73.8 | 73.8 | 83.5 | 89.8 | 87.8 | 74.2 | 66.8 | 155.0 |
| GASPL | 116.4 | 117.0 | 115.4 | 114.8 | 115.9 | 116.0 | 117.6 | 123.2 | 129.2 | 131.1 | 127.7 | 126.8 | 167.4 | |
| PWL | 129.0 | 129.7 | 128.1 | 127.6 | 129.0 | 128.8 | 130.2 | 135.9 | 140.9 | 142.3 | 138.1 | 138.0 | | |
| PWLT | 130.4 | 129.7 | 128.1 | 127.6 | 129.0 | 128.8 | 130.2 | 135.9 | 140.9 | 142.3 | 138.1 | 138.0 | | |
| DBA | 190.3 | 190.8 | 189.3 | 189.5 | 192.6 | 194.0 | 195.5 | 195.4 | 206.7 | 213.0 | 211.1 | 197.7 | 191.0 | |

ORIGINAL PAGE IS
OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH044 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CONFIO = 4 MODEL = 4 FLTVEL = 400. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.90 RELHUM = 44.4 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIO = ARC MIKE HT = NBFR =

FNINI = LBS XNL RPM XNHR XNH RPM V8 = 2423.0 FPS AEB = 25.3 SO IN
FNRAMB = LBS XNL RPM XNHR XNH RPM V8 = 2423.0 FPS AEB = 25.3 SO IN

RUNPT = 100-0414 TAPE = X0414F TEST PT NO = 0414 NC = 861 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-0414 X04141

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160

72.0 75.0 74.2 74.1 75.3 77.5 78.9 80.9 87.0 93.6 95.0 92.8 87.2 169.1

63 74.2 76.0 75.7 75.4 77.7 78.2 79.7 81.9 87.9 95.8 97.4 87.1 170.7

80 74.0 76.4 76.8 78.4 79.6 80.4 83.0 88.1 96.3 97.6 93.1 86.7 171.0

100 75.8 78.4 77.9 77.9 79.6 80.5 80.1 82.8 89.3 97.4 99.4 93.8 88.7 172.4

125 78.1 78.5 78.5 78.5 80.9 81.8 82.4 83.9 90.3 98.0 99.6 93.0 87.8 172.7

150 79.1 81.4 80.7 80.5 84.1 83.7 83.2 84.6 91.4 97.7 100.3 92.0 87.9 173.2

200 81.1 85.3 83.1 83.5 84.8 85.2 86.1 87.2 92.7 99.0 98.8 91.9 88.0 173.3

250 86.7 86.8 85.8 84.9 85.1 84.6 86.3 86.3 92.3 98.1 96.4 90.2 86.8 172.5

315 83.6 87.4 87.1 86.2 87.6 86.8 86.1 86.6 92.4 96.6 96.5 84.2 172.3

400 83.1 85.5 85.9 87.2 86.3 86.5 86.8 87.2 92.8 95.4 93.3 86.5 82.6 171.4

500 82.9 85.5 84.5 85.6 86.6 87.2 87.8 87.8 91.6 94.1 91.8 84.1 79.9 170.6

630 79.3 81.1 81.6 82.7 83.5 85.1 85.7 87.9 90.9 92.7 90.4 83.6 78.3 169.8

800 76.9 80.2 80.6 81.6 83.7 85.0 85.6 86.9 89.2 91.4 88.3 81.0 75.7 169.0

1000 78.1 81.6 81.7 81.8 83.9 84.3 85.7 86.9 89.2 91.4 88.3 81.0 75.7 169.0

1250 76.3 79.7 79.9 80.8 81.1 83.7 84.5 87.0 87.9 85.4 78.3 72.2 168.0

1500 74.5 77.5 78.6 79.5 80.0 81.6 81.3 81.9 85.1 85.9 82.4 75.2 67.8 167.2

1600 74.5 77.5 78.6 79.5 80.0 81.6 81.3 81.9 85.1 85.9 82.4 75.2 67.8 167.2

2000 70.9 74.5 76.4 76.6 76.9 78.5 78.6 78.6 80.1 81.9 82.9 79.7 71.9 166.4

2500 66.0 71.1 72.5 73.0 73.8 75.8 76.2 76.3 76.6 79.8 74.7 66.5 54.3 165.6

3150 60.1 64.6 67.2 68.9 70.1 72.2 72.1 70.7 74.5 76.1 69.2 57.3 40.9 165.5

4000 48.1 56.5 59.1 61.2 62.5 65.3 64.3 69.0 68.5 62.6 45.3 28.1 169.0

5000 33.2 43.8 47.8 50.7 54.6 56.7 55.4 59.9 61.7 51.2 28.1 169.0

6300 10.9 24.5 31.8 35.5 39.5 42.4 41.9 39.5 46.3 45.1 31.9 0.3 171.2

8000 3.8 10.9 16.6 19.6 20.2 16.4 24.1 19.5 175.3

10000 172.5

12500 175.3

15000 171.2

17500 175.3

20000 171.2

22500 175.3

25000 171.2

27500 175.3

30000 171.2

32500 175.3

35000 171.2

37500 175.3

40000 171.2

42500 175.3

45000 171.2

47500 175.3

50000 171.2

52500 175.3

55000 171.2

57500 175.3

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-0415 X0415C
BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 86.2 | 85.5 | 83.7 | 83.0 | 83.6 | 88.2 | 87.4 | 88.8 | 90.5 | 96.8 | 97.2 | 96.6 | 97.5 |
| 63 | 89.5 | 89.3 | 89.3 | 89.3 | 91.4 | 91.6 | 91.6 | 91.6 | 93.3 | 99.5 | 99.2 | 100.6 | 137.1 |
| 80 | 92.0 | 97.1 | 91.6 | 92.1 | 94.0 | 96.8 | 96.5 | 95.6 | 97.3 | 99.4 | 99.0 | 101.0 | 138.9 |
| 100 | 91.8 | 98.6 | 93.4 | 94.9 | 95.7 | 97.1 | 98.2 | 99.2 | 97.9 | 99.4 | 101.1 | 105.0 | 141.3 |
| 125 | 88.1 | 91.4 | 92.9 | 94.7 | 96.3 | 98.4 | 98.0 | 97.4 | 98.9 | 101.7 | 107.9 | 109.5 | 144.3 |
| 150 | 88.3 | 87.8 | 90.6 | 90.6 | 90.5 | 93.3 | 95.5 | 95.9 | 98.6 | 103.2 | 107.8 | 111.0 | 145.3 |
| 200 | 89.0 | 88.8 | 89.8 | 90.9 | 93.2 | 96.3 | 96.5 | 98.4 | 102.8 | 105.4 | 109.5 | 113.5 | 147.5 |
| 250 | 88.8 | 92.8 | 92.1 | 93.9 | 95.0 | 96.1 | 98.2 | 100.6 | 103.8 | 110.9 | 115.3 | 118.0 | 151.4 |
| 315 | 89.8 | 91.9 | 91.4 | 92.7 | 94.8 | 97.9 | 100.0 | 101.7 | 107.1 | 113.5 | 116.6 | 119.0 | 152.6 |
| 400 | 92.1 | 93.6 | 93.6 | 95.2 | 95.3 | 99.1 | 101.5 | 105.2 | 112.6 | 119.0 | 120.1 | 120.5 | 155.5 |
| 500 | 91.9 | 95.0 | 94.5 | 95.5 | 96.9 | 99.3 | 101.4 | 104.8 | 111.3 | 119.1 | 121.0 | 120.6 | 155.8 |
| 630 | 93.8 | 95.8 | 96.4 | 96.2 | 99.9 | 102.7 | 106.2 | 112.9 | 121.7 | 122.6 | 120.7 | 119.4 | 157.3 |
| 800 | 97.7 | 96.0 | 97.5 | 97.5 | 99.4 | 101.5 | 103.4 | 106.8 | 113.0 | 122.1 | 123.2 | 120.1 | 157.6 |
| 1000 | 101.7 | 102.2 | 100.8 | 100.8 | 102.9 | 102.8 | 104.6 | 108.0 | 113.8 | 122.1 | 123.2 | 120.1 | 157.6 |
| 1250 | 101.2 | 105.3 | 103.8 | 103.3 | 104.2 | 104.0 | 105.4 | 108.6 | 114.3 | 122.6 | 123.0 | 119.4 | 157.7 |
| 1500 | 106.0 | 103.5 | 102.8 | 102.7 | 105.0 | 107.5 | 109.7 | 115.1 | 122.5 | 122.9 | 117.4 | 113.4 | 157.5 |
| 2000 | 105.9 | 105.8 | 105.0 | 104.1 | 103.2 | 104.8 | 106.2 | 109.6 | 116.0 | 123.4 | 120.5 | 116.1 | 157.9 |
| 2500 | 103.9 | 104.7 | 104.2 | 105.7 | 105.8 | 105.7 | 107.8 | 110.2 | 114.9 | 122.3 | 118.9 | 114.5 | 156.2 |
| 3150 | 102.2 | 103.6 | 104.1 | 105.4 | 107.8 | 107.9 | 110.8 | 114.9 | 120.9 | 113.4 | 109.0 | 155.5 | |
| 4000 | 102.0 | 103.0 | 104.1 | 107.1 | 109.0 | 110.8 | 114.9 | 119.2 | 116.5 | 112.2 | 108.1 | 154.3 | |
| 5000 | 99.2 | 100.5 | 100.8 | 101.8 | 103.2 | 105.7 | 108.1 | 110.6 | 114.1 | 118.6 | 115.3 | 110.9 | 153.7 |
| 6300 | 98.3 | 101.1 | 100.5 | 101.5 | 103.4 | 105.9 | 107.4 | 110.6 | 112.8 | 116.7 | 114.3 | 110.8 | 152.7 |
| 8000 | 96.5 | 97.5 | 98.6 | 100.1 | 101.8 | 104.6 | 106.2 | 109.6 | 111.2 | 115.0 | 112.5 | 107.4 | 151.8 |
| 10000 | 95.6 | 97.5 | 98.6 | 100.1 | 101.8 | 104.6 | 106.2 | 109.6 | 111.2 | 115.0 | 112.5 | 107.4 | 151.8 |
| 12500 | 93.9 | 96.1 | 96.9 | 98.2 | 100.7 | 103.2 | 104.4 | 105.9 | 109.8 | 113.3 | 111.1 | 105.2 | 151.0 |
| 15000 | 90.7 | 94.4 | 95.4 | 97.5 | 100.2 | 102.4 | 105.4 | 107.8 | 110.9 | 112.8 | 102.8 | 98.3 | 150.1 |
| 20000 | 86.5 | 90.8 | 92.2 | 93.7 | 95.2 | 98.0 | 100.1 | 102.2 | 105.1 | 108.7 | 105.8 | 99.9 | 149.4 |
| 25000 | 84.2 | 87.6 | 89.7 | 93.0 | 96.1 | 97.6 | 98.8 | 102.6 | 106.4 | 103.5 | 98.3 | 92.3 | 149.3 |
| 31500 | 79.7 | 83.6 | 84.4 | 85.7 | 88.2 | 92.3 | 93.7 | 95.9 | 99.9 | 103.9 | 102.0 | 95.1 | 149.9 |
| 40000 | 74.8 | 79.4 | 80.8 | 81.4 | 84.8 | 88.4 | 89.8 | 93.4 | 98.6 | 102.5 | 100.3 | 91.4 | 152.0 |
| 50000 | 70.4 | 73.7 | 75.2 | 76.6 | 79.3 | 84.1 | 85.9 | 88.6 | 95.8 | 101.6 | 98.1 | 87.0 | 154.5 |
| 63000 | 63.6 | 69.5 | 70.4 | 73.1 | 75.6 | 78.8 | 82.1 | 84.5 | 93.3 | 99.9 | 95.3 | 85.0 | 157.6 |
| 80000 | 58.5 | 66.4 | 66.2 | 67.3 | 69.9 | 73.8 | 76.4 | 80.5 | 90.2 | 95.1 | 93.5 | 82.4 | 160.6 |
| DBA | 113.6 | 114.3 | 113.7 | 114.2 | 114.9 | 116.7 | 118.3 | 121.1 | 125.8 | 132.7 | 132.0 | 128.7 | 125.6 |
| CASPL | 113.2 | 114.1 | 113.6 | 114.1 | 115.0 | 117.1 | 118.7 | 121.3 | 126.0 | 132.7 | 132.5 | 130.2 | 128.1 |
| PWL | 125.8 | 126.9 | 126.5 | 127.5 | 128.9 | 131.0 | 131.9 | 134.3 | 139.2 | 144.8 | 144.1 | 140.1 | 137.0 |
| PNL | 125.8 | 126.9 | 126.5 | 127.5 | 128.9 | 131.0 | 131.9 | 134.3 | 139.2 | 144.8 | 144.1 | 140.1 | 137.0 |
| DBA | 113.6 | 114.3 | 113.7 | 114.2 | 114.9 | 116.7 | 118.3 | 121.1 | 125.8 | 132.7 | 132.0 | 128.7 | 125.6 |

ORIGINAL PAGE IS
OF POOR QUALITY

VEHICLE = ADH028 TEST DATE = 08-19-81
WIND DIR = SB59
WIND VEL = NO
PWL AREA = FULL SPHERE
EXT DIST = 40.0 FT
EXT CONFID = ARC
TAMB F = 70.00
PAMB HG = 29.60
RELHUM = 57.9 PCT
FLVEL = 0. FPS
MODEL = 4
MIKE HT =
NBFR =
FNRAMB =
FNRAMB =
LBS XNL =
RPM XNH =
RPM XNHR =
V8 =
V18 =
FPS AE8 =
FPS AE18 =
CORR FAN SPEED =
RPM

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-0415 X0415F

ANGLES MEASURED FROM INLET, DEGREES

| 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 66.2 | 65.5 | 63.7 | 63.0 | 63.6 | 68.2 | 67.4 | 68.8 | 90.5 | 96.8 | 97.2 | 96.6 | 97.5 |
| 63 | 89.5 | 89.3 | 89.3 | 89.3 | 91.4 | 93.5 | 91.9 | 91.6 | 95.3 | 99.6 | 99.5 | 100.6 | 137.1 |
| 80 | 92.0 | 97.1 | 91.6 | 92.1 | 94.0 | 96.8 | 96.5 | 95.6 | 97.3 | 96.4 | 99.0 | 103.1 | 138.9 |
| 100 | 91.8 | 98.6 | 93.4 | 94.9 | 97.1 | 98.2 | 99.2 | 97.4 | 99.4 | 101.1 | 105.0 | 106.9 | 141.3 |
| 125 | 88.1 | 91.4 | 92.9 | 94.7 | 96.3 | 98.4 | 98.0 | 97.4 | 98.9 | 101.7 | 107.9 | 109.5 | 144.3 |
| 160 | 88.3 | 87.8 | 90.6 | 90.6 | 90.5 | 93.3 | 95.5 | 95.9 | 98.6 | 103.2 | 107.8 | 111.0 | 145.3 |
| 200 | 69.0 | 68.8 | 69.8 | 69.9 | 69.3 | 96.3 | 96.5 | 98.4 | 102.8 | 105.4 | 109.5 | 113.5 | 147.5 |
| 250 | 68.8 | 68.8 | 68.8 | 68.8 | 68.8 | 95.0 | 96.1 | 98.2 | 100.6 | 103.8 | 110.9 | 117.6 | 151.4 |
| 315 | 69.8 | 91.9 | 91.4 | 92.7 | 94.8 | 97.9 | 100.0 | 101.7 | 107.1 | 113.5 | 119.0 | 125.2 | 152.6 |
| 400 | 92.1 | 93.6 | 93.6 | 95.2 | 95.3 | 99.1 | 101.5 | 105.2 | 112.6 | 119.0 | 120.1 | 120.5 | 155.8 |
| 500 | 91.9 | 94.5 | 95.5 | 96.9 | 99.3 | 101.4 | 104.8 | 111.3 | 119.1 | 121.0 | 120.6 | 118.3 | 155.8 |
| 630 | 93.8 | 95.8 | 96.6 | 96.4 | 98.2 | 99.9 | 102.7 | 106.2 | 112.9 | 121.7 | 122.6 | 119.4 | 157.3 |
| 800 | 97.7 | 96.0 | 96.5 | 97.5 | 99.4 | 101.5 | 103.4 | 106.8 | 113.0 | 122.1 | 123.2 | 120.9 | 157.6 |
| 1000 | 101.7 | 102.2 | 100.8 | 100.8 | 102.8 | 104.6 | 108.0 | 114.3 | 122.1 | 123.2 | 120.1 | 116.8 | 157.6 |
| 1250 | 101.2 | 105.3 | 103.8 | 103.3 | 104.2 | 104.0 | 105.4 | 108.6 | 114.3 | 122.6 | 123.0 | 119.4 | 157.7 |
| 1600 | 106.0 | 103.5 | 103.3 | 102.8 | 102.7 | 105.0 | 107.5 | 109.7 | 115.1 | 122.5 | 122.9 | 117.4 | 157.5 |
| 2000 | 105.9 | 105.8 | 105.0 | 104.1 | 103.2 | 104.8 | 107.8 | 110.2 | 114.9 | 122.3 | 118.9 | 114.5 | 156.2 |
| 2500 | 103.9 | 104.7 | 104.2 | 105.7 | 105.8 | 107.8 | 107.8 | 110.2 | 114.9 | 122.3 | 118.9 | 114.5 | 156.2 |
| 3150 | 102.2 | 103.6 | 103.3 | 104.1 | 105.4 | 107.8 | 107.9 | 110.3 | 114.9 | 120.9 | 118.7 | 113.4 | 155.5 |
| 4000 | 100.7 | 102.0 | 103.0 | 104.1 | 107.1 | 109.0 | 110.8 | 114.9 | 119.2 | 116.5 | 112.2 | 108.1 | 154.3 |
| 5000 | 99.2 | 100.5 | 101.8 | 103.2 | 105.7 | 110.6 | 110.6 | 114.1 | 118.6 | 115.0 | 110.9 | 106.2 | 153.7 |
| 6300 | 98.3 | 101.1 | 100.5 | 101.5 | 103.4 | 105.9 | 107.4 | 110.6 | 112.8 | 116.7 | 114.3 | 110.8 | 152.7 |
| 8000 | 96.5 | 98.9 | 99.7 | 100.0 | 101.8 | 104.9 | 106.2 | 109.6 | 111.6 | 116.2 | 113.1 | 108.4 | 152.2 |
| 10000 | 95.6 | 97.5 | 98.6 | 100.1 | 101.8 | 104.6 | 105.4 | 108.5 | 111.2 | 115.0 | 107.4 | 103.8 | 151.8 |
| 12500 | 93.9 | 96.2 | 96.9 | 98.1 | 100.7 | 103.2 | 104.4 | 105.9 | 109.8 | 113.3 | 111.1 | 105.2 | 151.0 |
| 16000 | 90.7 | 94.4 | 94.9 | 95.4 | 97.5 | 100.2 | 102.4 | 105.4 | 107.8 | 110.9 | 108.2 | 102.8 | 150.1 |
| 20000 | 88.5 | 90.8 | 92.2 | 93.7 | 95.2 | 98.0 | 100.1 | 102.2 | 105.1 | 108.7 | 105.8 | 99.9 | 149.4 |
| 25000 | 84.2 | 87.6 | 89.7 | 93.0 | 96.1 | 97.6 | 98.8 | 102.6 | 106.4 | 103.5 | 98.3 | 92.3 | 149.3 |
| 31500 | 79.7 | 83.6 | 84.4 | 85.7 | 88.2 | 92.3 | 93.7 | 95.9 | 99.9 | 103.9 | 102.0 | 95.1 | 149.9 |
| 40000 | 74.8 | 79.4 | 80.8 | 81.4 | 84.8 | 88.4 | 90.0 | 93.4 | 98.6 | 102.5 | 100.3 | 91.4 | 152.0 |
| 50000 | 70.4 | 73.7 | 75.2 | 76.6 | 79.3 | 84.1 | 85.9 | 88.6 | 93.8 | 101.6 | 98.1 | 87.0 | 154.5 |
| 63000 | 63.6 | 69.5 | 70.4 | 73.1 | 75.6 | 78.8 | 82.1 | 84.5 | 93.3 | 99.9 | 95.3 | 85.0 | 157.6 |
| 80000 | 58.5 | 66.4 | 66.2 | 67.3 | 69.9 | 73.8 | 76.4 | 80.5 | 90.2 | 95.1 | 93.5 | 82.4 | 160.6 |
| QASPL | 113.2 | 114.1 | 113.6 | 114.1 | 115.0 | 117.1 | 118.7 | 121.3 | 126.0 | 132.7 | 132.5 | 130.2 | 128.1 |
| PWL | 125.8 | 126.9 | 126.5 | 127.5 | 128.3 | 130.5 | 131.9 | 134.3 | 138.6 | 144.8 | 143.5 | 140.1 | 137.0 |
| PNLT | 125.8 | 127.6 | 126.5 | 127.5 | 128.9 | 131.0 | 131.9 | 134.3 | 139.2 | 144.8 | 144.1 | 140.1 | 137.0 |
| DBA | 180.4 | 187.5 | 187.6 | 189.0 | 191.7 | 195.5 | 198.1 | 201.8 | 211.2 | 216.4 | 214.2 | 203.2 | 188.3 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH028 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLVEL = 0. FPS
IAPLHA = SB59 IEGA' = NO PWL AREA = FULL SPHERE TAMB F = 70.00 MIKE HT = 29.60 RELHUM = 57.9 PCT
WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2434.7 FPS AE8 = 25.3 SO IN
FNRAMB = LBS XNL RPM XNH XNHR = RPM V8 = 2434.7 FPS AE8 = 25.3 SO IN

RUNPT = 81F-ZER-0415 TAPE = X0415F TEST PT NO = 0415 NC = 661 CORR FAN SPEED = RPM

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HONEYWELL PAGE PRINTING SYSTEM- P118-03

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-0415 X04151

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 70.1 73.1 74.2 76.5 77.0 81.0 83.2 86.5 93.2 98.5 98.1 96.3 90.9 173.0
63 69.9 74.5 75.1 76.8 78.6 81.1 83.1 86.1 91.8 98.6 98.9 96.4 90.7 173.2
80 71.7 75.3 76.2 77.7 79.9 81.7 84.4 87.4 93.4 101.1 100.5 96.4 91.7 174.8
100 75.5 75.4 77.0 78.8 81.0 83.3 85.0 88.0 93.5 101.5 101.0 96.5 89.4 175.0
125 79.4 81.5 81.9 82.4 84.4 86.2 86.2 89.2 94.2 101.4 100.9 95.6 88.7 175.0
160 78.7 84.4 84.0 84.3 85.6 85.6 86.8 89.6 94.5 101.7 100.5 94.6 86.5 175.1
200 83.3 82.5 83.7 84.0 86.5 86.5 88.8 90.5 95.1 101.4 100.1 92.3 84.5 174.9
250 82.9 84.5 84.8 84.7 86.0 87.3 90.2 95.8 102.1 97.5 90.5 82.3 174.6
315 80.4 83.0 83.8 86.1 86.6 86.7 88.6 90.6 94.4 100.6 95.4 88.4 80.3 173.6
400 78.3 81.5 82.5 84.1 85.9 88.4 88.4 90.4 94.1 98.8 94.8 86.7 77.7 172.9
500 76.3 79.5 80.9 82.8 84.3 87.5 89.2 90.5 93.8 96.7 92.0 84.7 75.7 171.8
630 74.2 77.6 79.3 81.2 83.2 85.8 88.0 90.1 92.7 95.7 90.4 82.8 72.8 171.1
800 72.9 77.8 78.7 80.7 83.1 85.8 87.1 89.8 91.1 93.5 88.8 82.0 71.1 170.2
1000 70.6 75.3 77.7 79.0 81.4 84.6 86.8 88.6 89.6 92.7 87.2 79.0 68.7 169.6
1250 69.2 73.7 76.3 78.9 81.2 84.2 84.8 87.3 88.9 91.2 86.1 77.1 66.6 169.3
1500 66.7 71.7 74.2 76.7 79.8 82.5 83.5 84.4 87.1 88.8 83.8 73.6 61.2 168.4
2000 62.5 69.3 71.8 73.7 76.5 79.4 81.3 83.7 84.7 85.9 80.0 69.5 55.7 167.6
2500 58.5 64.5 68.3 71.3 73.6 76.7 78.5 79.8 81.2 82.4 75.8 63.8 48.4 166.8
3150 50.8 58.9 62.1 65.7 70.1 73.5 74.7 74.9 76.8 77.6 70.1 57.2 36.5 166.8
4000 40.1 50.1 54.8 58.5 62.3 66.8 67.8 68.7 70.3 70.4 62.4 45.2 17.8 167.3
5000 25.4 38.3 48.7 58.0 59.1 58.0 44.9 45.1 47.9 46.4 30.9 171.9
6300 3.3 27.3 33.1 38.3 43.8 44.9 45.1 46.4 47.9 46.4 30.9 171.9

8000 175.0
10000 175.0
12500 178.0

20000
25000
31500
40000
50000
63000
80000
OASPL 89.7 92.1 92.8 94.0 95.3 97.4 98.9 101.2 105.3 111.3 109.5 104.6 98.2 186.7
PNL 93.7 96.8 98.0 99.9 101.6 104.1 105.4 107.5 110.6 115.3 111.9 104.7 96.7
PNLT 93.7 96.8 98.0 99.9 101.6 104.1 105.4 107.5 111.1 116.0 111.9 104.7 96.7
DBA 82.6 85.9 87.3 89.1 91.0 93.6 94.9 97.1 99.5 103.3 99.1 91.8 83.2

MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH028 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH C0NF1G = 4 MODEL = 4 FLTVEL = 0. FPS
IAPLHA = SB59 IE6A = NO PWL AREA = FULL SPHERE TAMB F = 70.00 PAMB HG = 29.60 RELHUM = 57.9 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT C0NF1G = SL MIKE HT = NBFR =

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OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-216 X0416C
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

140. 150. 160.

PWL

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OF POOR QUALITY

[illegible]

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - B1F-400-416 X0416F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

FREQ

50

63

80

100

125

160

200

250

315

400

500

630

800

1000

1250

1600

2000

2500

3150

4000

5000

6300

8000

10000

12500

16000

20000

| | | | | | | | | | | | | | |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 250 | 93.4 | 95.6 | 94.0 | 93.7 | 93.1 | 93.3 | 94.3 | 99.4 | 105.8 | 108.9 | 112.3 | 113.1 | 146.1 |
| 315 | 93.4 | 95.8 | 94.0 | 93.7 | 93.1 | 94.6 | 94.4 | 95.4 | 105.5 | 111.6 | 114.6 | 115.9 | 150.0 |
| 400 | 94.3 | 95.3 | 93.6 | 92.6 | 93.6 | 93.6 | 95.9 | 97.0 | 106.5 | 114.7 | 117.2 | 118.1 | 152.2 |
| 500 | 96.3 | 96.0 | 95.1 | 94.1 | 95.8 | 96.3 | 98.1 | 100.5 | 107.9 | 116.6 | 120.0 | 118.1 | 153.8 |
| 630 | 96.1 | 97.6 | 96.2 | 96.0 | 96.7 | 97.5 | 98.8 | 102.0 | 108.1 | 117.3 | 120.1 | 118.2 | 154.0 |
| 800 | 98.8 | 97.6 | 96.9 | 96.2 | 96.8 | 99.0 | 101.4 | 108.8 | 119.4 | 121.9 | 118.1 | 116.7 | 155.3 |
| 1000 | 100.6 | 99.4 | 98.3 | 97.9 | 99.3 | 99.9 | 100.6 | 102.5 | 110.2 | 119.0 | 122.3 | 117.9 | 155.7 |
| 1250 | 101.6 | 102.0 | 99.9 | 99.5 | 102.4 | 102.3 | 101.5 | 103.7 | 111.4 | 118.8 | 123.1 | 117.9 | 156.1 |
| 1600 | 105.8 | 107.6 | 103.8 | 102.5 | 102.6 | 103.8 | 103.9 | 105.0 | 112.9 | 120.1 | 121.3 | 117.1 | 155.9 |
| 2000 | 110.2 | 108.6 | 106.7 | 104.8 | 104.6 | 103.9 | 104.1 | 105.5 | 112.0 | 119.5 | 115.8 | 116.7 | 155.1 |
| 2500 | 107.4 | 109.2 | 108.0 | 107.0 | 107.5 | 106.1 | 105.0 | 106.5 | 112.9 | 118.8 | 115.0 | 115.2 | 155.1 |
| 3150 | 107.5 | 108.3 | 107.2 | 107.4 | 106.5 | 108.0 | 106.8 | 106.7 | 113.8 | 118.0 | 117.7 | 114.0 | 154.4 |
| 4000 | 108.1 | 108.2 | 106.4 | 105.9 | 104.8 | 105.9 | 107.4 | 108.5 | 112.7 | 116.7 | 112.1 | 112.6 | 153.5 |
| 5000 | 104.3 | 105.0 | 103.8 | 104.0 | 103.8 | 105.4 | 105.8 | 108.5 | 112.8 | 115.8 | 111.9 | 112.3 | 152.8 |
| 6300 | 103.1 | 103.5 | 102.6 | 102.9 | 104.0 | 105.1 | 105.6 | 107.9 | 111.8 | 114.9 | 111.2 | 111.7 | 152.0 |
| 8000 | 101.7 | 103.9 | 102.4 | 101.9 | 102.4 | 104.4 | 105.0 | 107.0 | 111.1 | 113.9 | 110.3 | 111.7 | 151.7 |
| 10000 | 102.9 | 103.8 | 102.2 | 102.2 | 103.8 | 103.7 | 106.2 | 109.7 | 112.1 | 111.9 | 108.6 | 109.2 | 150.9 |
| 12500 | 102.0 | 102.5 | 101.0 | 101.5 | 101.3 | 102.5 | 102.4 | 103.8 | 107.9 | 110.8 | 109.7 | 106.9 | 150.1 |
| 16000 | 100.1 | 100.1 | 99.6 | 98.8 | 98.2 | 99.3 | 100.2 | 102.5 | 105.6 | 108.4 | 104.6 | 106.2 | 149.3 |
| 20000 | 96.5 | 97.9 | 96.5 | 96.0 | 95.9 | 96.8 | 97.7 | 98.7 | 102.7 | 106.6 | 105.3 | 102.1 | 148.4 |
| 25000 | 93.0 | 94.0 | 93.5 | 93.2 | 93.1 | 94.8 | 95.0 | 95.1 | 100.5 | 104.3 | 103.3 | 98.1 | 148.1 |
| 31500 | 88.2 | 90.4 | 89.2 | 88.7 | 88.9 | 90.9 | 90.8 | 92.1 | 98.9 | 102.7 | 102.4 | 95.5 | 149.3 |
| 40000 | 82.8 | 85.3 | 83.9 | 84.1 | 85.6 | 87.0 | 86.9 | 88.4 | 95.5 | 102.5 | 100.6 | 92.1 | 151.5 |
| 50000 | 78.0 | 79.7 | 79.7 | 80.3 | 82.7 | 83.7 | 84.1 | 84.5 | 100.6 | 100.6 | 88.4 | 84.0 | 155.3 |
| 63000 | 72.9 | 73.9 | 73.9 | 76.4 | 77.9 | 78.7 | 78.7 | 82.9 | 92.7 | 101.5 | 98.8 | 85.8 | 159.2 |
| 80000 | 66.1 | 70.8 | 68.7 | 68.9 | 71.2 | 72.4 | 73.4 | 73.4 | 82.9 | 91.7 | 88.9 | 76.0 | 156.3 |
| 100000 | 116.8 | 117.3 | 115.8 | 115.2 | 115.2 | 116.0 | 116.1 | 117.8 | 123.5 | 129.5 | 131.4 | 128.2 | 167.9 |
| 125000 | 129.5 | 130.0 | 128.6 | 128.4 | 128.1 | 129.2 | 129.0 | 130.5 | 136.1 | 141.3 | 142.4 | 138.6 | 138.4 |
| 160000 | 130.7 | 130.0 | 128.6 | 128.4 | 128.1 | 129.2 | 129.0 | 130.5 | 136.1 | 141.3 | 142.4 | 138.6 | 138.4 |
| 200000 | 188.4 | 192.3 | 190.5 | 190.5 | 190.6 | 192.8 | 194.2 | 195.0 | 195.2 | 206.2 | 214.9 | 212.2 | 191.5 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH045 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVL = 400. FPS
 IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.60 RELHUM = 44.5 PCT
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNLR RPM XNHR RPM V8 = 2443.1 FPS AE8 = 25.3 SQ IN
 FNRAMB = LBS XNLR RPM XNHR RPM V8 = 2443.1 FPS AE8 = 25.3 SQ IN

400-416 TAPE = X0416F TEST PT NO = 0417 NC = 861 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-416 X04161

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

| | | | | | | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|-------|-------|------|-------|-------|
| 50 | 72.3 | 74.8 | 74.2 | 73.9 | 75.3 | 77.7 | 78.7 | 80.9 | 87.1 | 94.2 | 95.2 | 93.9 | 87.8 | 169.7 |
| 63 | 74.2 | 75.5 | 75.7 | 75.4 | 77.5 | 78.2 | 79.8 | 83.8 | 88.5 | 96.1 | 97.9 | 93.8 | 87.9 | 171.2 |
| 80 | 74.0 | 77.3 | 78.8 | 79.3 | 80.5 | 83.8 | 88.5 | 93.0 | 98.0 | 100.6 | 100.6 | 93.0 | 88.2 | 173.6 |
| 100 | 75.8 | 78.2 | 78.1 | 79.8 | 80.5 | 82.6 | 86.6 | 89.3 | 97.8 | 99.8 | 99.8 | 88.7 | 88.9 | 172.7 |
| 125 | 78.3 | 78.7 | 79.0 | 80.9 | 81.6 | 82.2 | 83.7 | 90.6 | 98.3 | 100.0 | 93.4 | 88.9 | 173.1 | |
| 160 | 79.1 | 81.1 | 80.2 | 83.9 | 83.8 | 83.0 | 84.7 | 91.7 | 98.0 | 100.6 | 93.0 | 88.2 | 173.6 | |
| 200 | 83.1 | 86.5 | 83.4 | 83.9 | 85.3 | 85.2 | 85.9 | 93.0 | 99.0 | 98.6 | 92.0 | 88.0 | 173.3 | |
| 250 | 87.2 | 87.3 | 86.5 | 85.4 | 85.6 | 85.1 | 85.1 | 86.1 | 91.8 | 98.1 | 96.5 | 90.3 | 87.1 | 172.6 |
| 315 | 83.9 | 87.5 | 87.6 | 87.4 | 88.3 | 87.0 | 85.8 | 86.8 | 92.4 | 97.2 | 96.4 | 88.9 | 84.8 | 172.6 |
| 400 | 83.6 | 86.2 | 86.4 | 87.5 | 87.0 | 88.7 | 87.3 | 86.8 | 93.0 | 95.9 | 93.8 | 87.2 | 82.8 | 171.8 |
| 500 | 83.7 | 85.8 | 85.2 | 85.6 | 84.6 | 86.3 | 87.7 | 88.2 | 91.6 | 94.3 | 92.3 | 84.6 | 80.2 | 170.9 |
| 630 | 79.3 | 82.1 | 82.3 | 83.4 | 83.7 | 85.6 | 85.7 | 87.9 | 91.4 | 93.0 | 90.9 | 83.6 | 78.8 | 170.2 |
| 800 | 77.7 | 80.2 | 80.8 | 82.1 | 83.7 | 85.0 | 85.3 | 87.1 | 90.1 | 91.6 | 88.6 | 82.4 | 77.2 | 169.4 |
| 1000 | 75.8 | 80.4 | 80.4 | 80.9 | 81.6 | 83.5 | 83.1 | 85.0 | 87.5 | 88.3 | 85.5 | 78.4 | 72.0 | 168.3 |
| 1250 | 76.5 | 80.0 | 80.9 | 81.0 | 81.6 | 83.5 | 83.1 | 85.0 | 87.5 | 88.3 | 85.5 | 78.4 | 72.0 | 168.3 |
| 1600 | 74.7 | 78.0 | 78.4 | 80.0 | 80.5 | 81.8 | 81.6 | 83.2 | 85.2 | 86.3 | 82.4 | 75.3 | 69.3 | 167.6 |
| 2000 | 71.9 | 75.0 | 76.6 | 77.1 | 77.2 | 78.5 | 79.2 | 80.7 | 82.6 | 83.3 | 80.2 | 71.3 | 63.7 | 166.8 |
| 2500 | 66.5 | 71.6 | 72.5 | 73.5 | 74.3 | 75.5 | 76.2 | 76.3 | 78.8 | 80.3 | 75.3 | 66.1 | 54.3 | 165.8 |
| 3150 | 59.6 | 65.3 | 67.7 | 69.2 | 70.1 | 72.2 | 72.1 | 71.1 | 74.7 | 75.6 | 69.9 | 57.0 | 41.2 | 165.6 |
| 4000 | 48.6 | 57.0 | 59.6 | 61.5 | 63.0 | 64.8 | 64.8 | 69.3 | 69.3 | 62.8 | 45.5 | 28.4 | 168.9 | |
| 5000 | 33.5 | 44.2 | 48.0 | 51.4 | 54.6 | 56.7 | 56.0 | 55.7 | 59.7 | 61.5 | 51.2 | 28.4 | 168.9 | |
| 6300 | 10.9 | 25.5 | 32.0 | 36.2 | 39.3 | 42.7 | 41.6 | 40.3 | 46.2 | 47.2 | 33.5 | 0.6 | 172.7 | |
| 8000 | | | 4.6 | 11.2 | 17.2 | 19.9 | 19.5 | 16.0 | 23.5 | 21.4 | 1.0 | | 173.8 | |

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OF POOR QUALITY

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-A/NAS3-22514

MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

| | | | | | | | | | | | | | | |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| CASPL | 92.9 | 95.2 | 94.8 | 95.1 | 95.7 | 96.5 | 96.4 | 97.6 | 102.7 | 108.0 | 108.5 | 102.7 | 97.7 | 185.3 |
| PWL | 98.3 | 100.8 | 101.0 | 101.7 | 102.2 | 103.5 | 103.2 | 104.2 | 108.6 | 112.2 | 111.0 | 104.2 | 99.3 | |
| PWL | 99.0 | 100.8 | 101.6 | 102.2 | 102.2 | 103.5 | 103.2 | 104.2 | 109.2 | 112.8 | 111.9 | 105.4 | 99.3 | |
| DBA | 87.7 | 90.5 | 90.7 | 91.3 | 91.7 | 93.1 | 93.1 | 94.4 | 97.9 | 100.5 | 98.8 | 91.8 | 87.3 | |

VEHICLE = ADH045 TEST DATE = 08-19-81
IAPLHA = SB59
WIND DIR = DEG WIND VEL = MPH
EXT AREA = FULL SPHERE
EXT DIST = 2400.0 FT
EXT CNFIG = SL
TAMB F = 60.00
PAMB HG = 29.60
RELHUM = 44.5 PCT
FLVEL = 400. FPS
MODEL = 4
MIKE HT = NBFR

VEHICLE = ADH045
IAPLHA = SB59
WIND DIR = DEG WIND VEL = MPH
EXT AREA = FULL SPHERE
EXT DIST = 2400.0 FT
EXT CNFIG = SL
TAMB F = 60.00
PAMB HG = 29.60
RELHUM = 44.5 PCT
FLVEL = 400. FPS
MODEL = 4
MIKE HT = NBFR

VEHICLE = ADH045
IAPLHA = SB59
WIND DIR = DEG WIND VEL = MPH
EXT AREA = FULL SPHERE
EXT DIST = 2400.0 FT
EXT CNFIG = SL
TAMB F = 60.00
PAMB HG = 29.60
RELHUM = 44.5 PCT
FLVEL = 400. FPS
MODEL = 4
MIKE HT = NBFR

VEHICLE = ADH045
IAPLHA = SB59
WIND DIR = DEG WIND VEL = MPH
EXT AREA = FULL SPHERE
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RELHUM = 44.5 PCT
FLVEL = 400. FPS
MODEL = 4
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IAPLHA = SB59
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VEHICLE = ADH045
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TAMB F = 60.00
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MIKE HT = NBFR

VEHICLE = ADH045
IAPLHA = SB59
WIND DIR = DEG WIND VEL = MPH
EXT AREA = FULL SPHERE
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TAMB F = 60.00
PAMB HG = 29.60
RELHUM = 44.5 PCT
FLVEL = 400. FPS
MODEL = 4
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VEHICLE = ADH045
IAPLHA = SB59
WIND DIR = DEG WIND VEL = MPH
EXT AREA = FULL SPHERE
EXT DIST = 2400.0 FT
EXT CNFIG = SL
TAMB F = 60.00
PAMB HG = 29.60
RELHUM = 44.5 PCT
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MIKE HT = NBFR

VEHICLE = ADH045
IAPLHA = SB59
WIND DIR = DEG WIND VEL = MPH
EXT AREA = FULL SPHERE
EXT DIST = 2400.0 FT
EXT CNFIG = SL
TAMB F = 60.00
PAMB HG = 29.60
RELHUM = 44.5 PCT
FLVEL = 400. FPS
MODEL = 4
MIKE HT = NBFR

VEHICLE = ADH045
IAPLHA = SB59
WIND DIR = DEG WIND VEL = MPH
EXT AREA = FULL SPHERE
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TAMB F = 60.00
PAMB HG = 29.60
RELHUM = 44.5 PCT
FLVEL = 400. FPS
MODEL = 4
MIKE HT = NBFR

VEHICLE = ADH045
IAPLHA = SB59
WIND DIR = DEG WIND VEL = MPH
EXT AREA = FULL SPHERE
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TAMB F = 60.00
PAMB HG = 29.60
RELHUM = 44.5 PCT
FLVEL = 400. FPS
MODEL = 4
MIKE HT = NBFR

VEHICLE = ADH045
IAPLHA = SB59
WIND DIR = DEG WIND VEL = MPH
EXT AREA = FULL SPHERE
EXT DIST = 2400.0 FT
EXT CNFIG = SL
TAMB F = 60.00
PAMB HG = 29.60
RELHUM = 44.5 PCT
FLVEL = 400. FPS
MODEL = 4
MIKE HT = NBFR

VEHICLE = ADH045
IAPLHA = SB59
WIND DIR = DEG WIND VEL = MPH
EXT AREA = FULL SPHERE
EXT DIST = 2400.0 FT
EXT CNFIG = SL
TAMB F = 60.00
PAMB HG = 29.60
RELHUM = 44.5 PCT
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MODEL = 4
MIKE HT = NBFR

VEHICLE = ADH045
IAPLHA = SB59
WIND DIR = DEG WIND VEL = MPH
EXT AREA = FULL SPHERE
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EXT CNFIG = SL
TAMB F = 60.00
PAMB HG = 29.60
RELHUM = 44.5 PCT
FLVEL = 400. FPS
MODEL = 4
MIKE HT = NBFR

VEHICLE = ADH045
IAPLHA = SB59
WIND DIR = DEG WIND VEL = MPH
EXT AREA = FULL SPHERE
EXT DIST = 2400.0 FT
EXT CNFIG = SL
TAMB F = 60.00
PAMB HG = 29.60
RELHUM = 44.5 PCT
FLVEL = 400. FPS
MODEL = 4
MIKE HT = NBFR

DATPROC - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARCIDENTIFICATION - MODEL 81F-ZER-0419 X0419C
BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.
PWL

| | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 63 | 69.2 | 69.3 | 69.5 | 69.6 | 91.7 | 93.5 | 92.4 | 91.1 | 95.5 | 100.1 | 98.7 | 100.8 | 137.3 |
| 80 | 91.5 | 96.6 | 91.3 | 92.1 | 93.5 | 96.6 | 96.5 | 96.8 | 96.8 | 96.4 | 98.8 | 101.0 | 102.6 |
| 100 | 91.6 | 96.6 | 93.4 | 94.9 | 96.2 | 97.1 | 98.7 | 99.2 | 97.9 | 99.9 | 101.6 | 105.3 | 106.9 |
| 125 | 88.6 | 91.9 | 92.9 | 94.7 | 96.5 | 98.4 | 98.0 | 97.7 | 98.7 | 101.7 | 108.1 | 111.2 | 144.5 |
| 150 | 88.3 | 88.1 | 90.6 | 90.9 | 91.0 | 93.6 | 95.5 | 96.1 | 99.3 | 103.7 | 108.3 | 110.7 | 145.5 |
| 200 | 89.8 | 88.8 | 89.8 | 90.6 | 93.2 | 96.8 | 97.0 | 98.4 | 102.8 | 105.4 | 109.8 | 114.0 | 147.9 |
| 250 | 89.3 | 92.8 | 92.6 | 94.4 | 94.7 | 95.8 | 98.2 | 101.1 | 104.1 | 110.9 | 115.5 | 118.0 | 151.5 |
| 315 | 89.3 | 92.1 | 91.9 | 92.9 | 94.8 | 98.1 | 100.0 | 101.4 | 106.4 | 113.7 | 116.3 | 118.4 | 152.5 |
| 400 | 92.1 | 93.9 | 93.9 | 94.4 | 95.0 | 98.6 | 101.0 | 104.7 | 111.9 | 118.5 | 120.3 | 120.8 | 155.5 |
| 500 | 91.9 | 94.5 | 94.5 | 95.5 | 96.9 | 99.0 | 101.4 | 104.8 | 111.3 | 119.6 | 121.5 | 121.1 | 156.2 |
| 630 | 93.6 | 95.8 | 95.9 | 96.4 | 98.0 | 100.4 | 103.2 | 106.7 | 112.1 | 121.7 | 123.3 | 121.7 | 157.8 |
| 800 | 97.5 | 102.5 | 97.0 | 97.8 | 99.4 | 101.5 | 103.1 | 107.0 | 113.0 | 122.1 | 123.2 | 118.0 | 157.8 |
| 1000 | 101.7 | 102.8 | 101.1 | 100.9 | 103.0 | 104.6 | 107.8 | 113.8 | 122.1 | 123.5 | 120.6 | 117.6 | 157.8 |
| 1250 | 102.2 | 103.8 | 104.0 | 103.8 | 104.2 | 104.8 | 105.4 | 108.8 | 114.8 | 122.6 | 123.7 | 119.7 | 158.0 |
| 1600 | 107.3 | 103.6 | 104.3 | 103.6 | 104.2 | 104.6 | 107.6 | 109.7 | 114.8 | 122.7 | 122.9 | 117.7 | 157.6 |
| 2000 | 106.4 | 107.1 | 106.5 | 105.4 | 104.2 | 105.1 | 106.5 | 109.9 | 115.5 | 123.4 | 120.5 | 116.4 | 157.3 |
| 2500 | 104.9 | 105.9 | 105.2 | 106.5 | 106.8 | 107.2 | 107.8 | 110.2 | 115.1 | 122.5 | 119.2 | 114.7 | 156.5 |
| 3150 | 102.7 | 104.3 | 103.8 | 104.9 | 106.4 | 109.3 | 108.4 | 110.9 | 114.4 | 120.9 | 118.7 | 113.2 | 155.5 |
| 4000 | 101.5 | 103.0 | 102.8 | 104.9 | 107.6 | 109.7 | 111.5 | 114.9 | 116.5 | 119.5 | 110.8 | 108.1 | 154.6 |
| 5000 | 100.4 | 102.0 | 101.8 | 102.8 | 104.2 | 106.7 | 108.3 | 111.1 | 114.1 | 118.3 | 115.6 | 110.8 | 153.7 |
| 6300 | 99.3 | 101.8 | 101.7 | 102.5 | 104.1 | 107.8 | 111.3 | 113.1 | 117.2 | 114.7 | 109.8 | 106.1 | 153.2 |
| 8000 | 97.4 | 99.8 | 100.4 | 101.5 | 102.8 | 105.6 | 107.2 | 109.6 | 111.6 | 112.8 | 107.9 | 104.2 | 152.3 |
| 10000 | 96.5 | 98.5 | 99.5 | 100.5 | 102.7 | 105.2 | 107.8 | 109.2 | 111.3 | 112.5 | 107.4 | 103.5 | 152.2 |
| 12500 | 94.6 | 96.5 | 97.8 | 98.8 | 101.3 | 103.3 | 104.8 | 106.3 | 109.9 | 113.9 | 105.4 | 101.2 | 151.3 |
| 16000 | 91.3 | 94.7 | 95.2 | 96.3 | 98.4 | 101.1 | 102.7 | 105.3 | 107.1 | 111.3 | 108.3 | 99.4 | 150.3 |
| 20000 | 88.9 | 91.4 | 92.7 | 94.0 | 96.0 | 98.8 | 99.9 | 102.5 | 104.6 | 106.9 | 103.4 | 96.2 | 149.7 |
| 25000 | 84.8 | 88.4 | 88.9 | 89.7 | 93.1 | 96.4 | 97.9 | 98.4 | 101.7 | 106.9 | 103.3 | 99.4 | 149.4 |
| 31500 | 80.1 | 84.7 | 84.8 | 86.4 | 89.1 | 92.4 | 93.8 | 96.6 | 100.0 | 104.2 | 101.9 | 95.5 | 150.1 |
| 40000 | 75.9 | 80.4 | 81.3 | 82.4 | 85.6 | 89.2 | 90.8 | 93.2 | 98.1 | 102.6 | 100.4 | 94.2 | 152.1 |
| 50000 | 71.6 | 75.4 | 76.4 | 78.0 | 80.8 | 85.2 | 87.6 | 89.5 | 96.1 | 101.9 | 98.5 | 92.1 | 155.0 |
| 63000 | 65.3 | 71.4 | 72.5 | 74.8 | 77.9 | 81.3 | 84.1 | 87.0 | 93.7 | 101.4 | 97.7 | 87.0 | 159.2 |
| 80000 | 60.9 | 68.4 | 68.2 | 69.6 | 72.2 | 76.6 | 79.2 | 82.6 | 91.9 | 97.9 | 95.1 | 82.8 | 162.8 |
| GASPL | 113.9 | 115.0 | 114.4 | 114.8 | 115.7 | 117.7 | 119.0 | 121.6 | 125.8 | 132.8 | 132.7 | 130.6 | 128.3 |
| PWL | 126.6 | 127.9 | 127.3 | 128.2 | 129.1 | 131.4 | 132.4 | 134.7 | 138.5 | 145.0 | 143.6 | 140.2 | 137.3 |
| PMLT | 126.6 | 128.6 | 127.3 | 128.2 | 129.1 | 131.9 | 132.4 | 134.7 | 139.0 | 145.0 | 143.6 | 140.2 | 137.3 |
| DBA | 114.4 | 115.3 | 114.6 | 115.0 | 115.6 | 117.4 | 118.6 | 121.4 | 125.7 | 132.8 | 132.2 | 129.1 | 125.9 |

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICLE = ADH029 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVL = 0. FPS
 IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 75.00 PAMB HG = 29.60 RELHUM = 55.0 PCT
 WIND DIR = SB59 DEG WIND/VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =
 FNINI = LBS XNL RPM XNH RPM XNHR = RPM V8 = 2447.2 FPS AE8 = 25.3 SQ IN
 FNRAMB = LBS XNLR RPM XNHR = RPM V18 = 2447.2 FPS AE18 = 0. SQ IN
 RUNPT = 11F-ZER-0419 TAPE = X0419C TEST PT NO = 0419 NC = 861 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-0419 X0419F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREQ 50 60 66.9 66.0 64.0 63.5 64.1 66.2 66.1 69.3 90.5 97.3 97.4 97.1 98.3 134.2

50 60 66.9 66.0 64.0 63.5 64.1 66.2 66.1 69.3 90.5 97.3 97.4 97.1 98.3 134.2

60 66.9 66.0 64.0 63.5 64.1 66.2 66.1 69.3 90.5 97.3 97.4 97.1 98.3 134.2

66.9 66.0 64.0 63.5 64.1 66.2 66.1 69.3 90.5 97.3 97.4 97.1 98.3 134.2

66.0 64.0 63.5 64.1 66.2 66.1 69.3 90.5 97.3 97.4 97.1 98.3 134.2

64.0 63.5 64.1 66.2 66.1 69.3 90.5 97.3 97.4 97.1 98.3 134.2

63.5 64.1 66.2 66.1 69.3 90.5 97.3 97.4 97.1 98.3 134.2

64.1 66.2 66.1 69.3 90.5 97.3 97.4 97.1 98.3 134.2

66.2 66.1 69.3 90.5 97.3 97.4 97.1 98.3 134.2

66.1 69.3 90.5 97.3 97.4 97.1 98.3 134.2

69.3 90.5 97.3 97.4 97.1 98.3 134.2

90.5 97.3 97.4 97.1 98.3 134.2

97.3 97.4 97.1 98.3 134.2

97.4 97.1 98.3 134.2

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NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH029 TEST DATE = 08-19-81

IAPLHA = SB59 LEGA' = NG

WIND DIR = DEG WIND VEL = MPH

FNIN1 = LBS XNLR = RPM XNHR = RPM

FNRAMB = LBS XNLR = RPM

RUNPT = 81F-ZER-0419 TAPE = X0419F

TEST PT NO = 0419 NC = 861 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-0420 X0420C
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.
PWL

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 89.7 | 91.2 | 83.7 | 83.5 | 83.9 | 84.7 | 86.4 | 87.8 | 89.5 | 94.8 | 96.9 | 96.1 | 99.3 | 133.6 |
| 63 | 90.0 | 89.5 | 88.8 | 90.4 | 91.0 | 91.2 | 91.8 | 91.8 | 94.8 | 100.9 | 100.5 | 99.4 | 100.6 | 137.5 |
| 80 | 92.5 | 95.3 | 91.6 | 92.9 | 94.0 | 95.8 | 96.2 | 95.6 | 97.1 | 98.3 | 100.2 | 103.6 | 138.5 | |
| 100 | 92.6 | 94.3 | 92.4 | 93.9 | 95.2 | 96.4 | 97.5 | 98.4 | 97.4 | 99.8 | 104.8 | 111.0 | 143.4 | |
| 125 | 89.1 | 90.9 | 92.7 | 93.9 | 95.3 | 97.2 | 97.3 | 96.7 | 96.9 | 99.5 | 108.8 | 111.0 | 143.4 | |
| 160 | 88.0 | 89.8 | 89.3 | 89.9 | 89.5 | 91.3 | 93.0 | 93.4 | 96.3 | 101.4 | 106.3 | 109.5 | 143.9 | |
| 200 | 87.3 | 89.1 | 87.9 | 87.9 | 90.2 | 93.1 | 94.0 | 96.1 | 99.8 | 101.9 | 107.0 | 112.2 | 146.0 | |
| 250 | 85.5 | 87.8 | 89.1 | 90.1 | 91.7 | 93.3 | 95.7 | 97.9 | 100.6 | 107.2 | 112.3 | 115.7 | 148.9 | |
| 315 | 86.8 | 88.6 | 89.4 | 89.4 | 91.5 | 94.4 | 97.0 | 98.0 | 102.9 | 110.7 | 114.3 | 117.3 | 150.4 | |
| 400 | 89.1 | 90.6 | 91.7 | 92.5 | 96.1 | 98.0 | 101.9 | 108.4 | 115.7 | 118.3 | 118.8 | 115.2 | 153.1 | |
| 500 | 88.7 | 90.5 | 91.8 | 92.0 | 94.4 | 96.3 | 98.9 | 102.3 | 108.3 | 116.8 | 119.5 | 118.4 | 153.5 | |
| 630 | 90.1 | 92.9 | 92.1 | 93.4 | 95.0 | 97.4 | 100.2 | 104.2 | 109.4 | 118.9 | 121.8 | 118.0 | 155.1 | |
| 800 | 93.2 | 94.5 | 93.3 | 94.5 | 96.6 | 98.8 | 100.4 | 103.8 | 109.3 | 119.6 | 122.5 | 116.4 | 155.4 | |
| 1000 | 97.7 | 99.3 | 97.3 | 97.3 | 97.9 | 99.8 | 101.9 | 105.1 | 110.5 | 120.3 | 122.7 | 115.7 | 155.8 | |
| 1250 | 101.0 | 103.3 | 100.5 | 100.3 | 100.9 | 101.8 | 102.7 | 105.6 | 112.0 | 120.9 | 123.9 | 114.9 | 156.8 | |
| 1600 | 104.5 | 106.6 | 103.8 | 102.9 | 101.2 | 102.8 | 104.5 | 107.1 | 114.2 | 121.7 | 122.0 | 113.9 | 156.4 | |
| 2000 | 102.7 | 103.8 | 104.5 | 105.1 | 103.7 | 103.1 | 104.5 | 107.1 | 114.2 | 121.7 | 122.0 | 113.9 | 156.4 | |
| 2500 | 100.4 | 102.2 | 102.2 | 104.0 | 105.1 | 105.7 | 105.3 | 107.8 | 113.1 | 120.3 | 120.4 | 113.0 | 155.5 | |
| 3150 | 98.8 | 100.1 | 99.6 | 101.1 | 103.7 | 106.7 | 108.1 | 112.9 | 118.6 | 119.7 | 119.9 | 103.8 | 154.2 | |
| 4000 | 97.2 | 98.8 | 97.8 | 97.3 | 99.0 | 100.9 | 104.6 | 107.0 | 112.9 | 117.5 | 117.2 | 109.9 | 153.0 | |
| 5000 | 96.2 | 98.3 | 97.3 | 99.0 | 100.7 | 103.2 | 105.8 | 108.9 | 112.6 | 116.8 | 116.3 | 108.4 | 152.4 | |
| 6300 | 95.6 | 97.8 | 97.2 | 98.5 | 100.2 | 102.9 | 104.9 | 109.1 | 115.2 | 115.0 | 107.8 | 100.2 | 151.6 | |
| 8000 | 92.6 | 95.9 | 96.2 | 97.1 | 99.1 | 102.4 | 104.5 | 109.3 | 113.3 | 111.8 | 105.2 | 98.8 | 150.2 | |
| 10000 | 92.6 | 94.3 | 95.3 | 96.6 | 98.8 | 101.3 | 103.2 | 106.3 | 109.9 | 113.3 | 104.3 | 97.3 | 149.2 | |
| 12500 | 91.5 | 92.4 | 93.7 | 94.7 | 97.2 | 100.0 | 101.7 | 103.7 | 108.1 | 111.4 | 104.0 | 97.3 | 149.2 | |
| 16000 | 88.0 | 90.7 | 91.2 | 92.2 | 94.6 | 97.3 | 99.4 | 103.0 | 109.8 | 107.8 | 107.8 | 101.1 | 148.6 | |
| 20000 | 85.6 | 88.6 | 89.8 | 91.8 | 95.1 | 96.7 | 99.6 | 102.5 | 107.1 | 105.7 | 98.8 | 91.9 | 147.6 | |
| 25000 | 81.4 | 84.8 | 85.4 | 89.0 | 92.5 | 94.6 | 95.8 | 99.8 | 104.4 | 101.7 | 96.0 | 88.5 | 146.9 | |
| 31500 | 76.4 | 80.0 | 80.3 | 81.9 | 85.1 | 88.4 | 90.3 | 92.6 | 96.6 | 99.5 | 91.8 | 84.0 | 147.2 | |
| 40000 | 72.0 | 76.3 | 77.8 | 81.5 | 85.0 | 88.7 | 84.0 | 91.8 | 97.6 | 95.3 | 88.1 | 79.5 | 148.6 | |
| 50000 | 68.0 | 74.5 | 71.7 | 73.2 | 76.7 | 80.4 | 82.7 | 84.0 | 91.8 | 97.6 | 95.5 | 83.0 | 150.8 | |
| 63000 | 62.7 | 74.9 | 68.0 | 70.5 | 73.0 | 75.9 | 78.7 | 79.9 | 90.9 | 96.3 | 95.6 | 79.9 | 153.2 | |
| 80000 | 59.7 | 75.8 | 66.1 | 65.5 | 67.7 | 70.4 | 73.2 | 74.5 | 87.6 | 93.4 | 91.5 | 73.9 | 158.5 | |
| DBA | 111.0 | 112.8 | 111.7 | 112.5 | 113.0 | 114.8 | 116.2 | 118.8 | 123.8 | 130.8 | 132.3 | 125.8 | 119.3 | |
| PWL | 123.0 | 125.8 | 124.3 | 125.5 | 126.5 | 129.4 | 132.3 | 136.6 | 142.9 | 143.9 | 137.9 | 132.1 | | |
| QASPL | 110.7 | 112.5 | 111.4 | 112.2 | 113.0 | 115.0 | 116.4 | 119.1 | 123.8 | 130.7 | 132.4 | 127.6 | 124.0 | 167.8 |

NASA SHOCK CELL/ANNULAR C-D PLUG NO2. SC-4/NAS3-22514

VEHICLE = ADH046 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4
IAPLHA = SB59 PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.60 FLTVL = 400. FPS
WIND DIR = SB59 DEG WIND/VEL = NO MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR = 44.5 PCT
FNINI = LBS XNLR = RPM XNHR = RPM V8 = 2463.4 FPS AE8 = 25.3 SQ IN CORR FAN SPEED = RPM
RUNPT = 81F-400-0420 TAPE = X0420C TEST PT NO = 0420 NC = 861

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-0420 X0420F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

FREE
50
63
80
100
125
160

| | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 250 | 93.4 | 94.3 | 94.0 | 93.4 | 93.3 | 93.8 | 94.3 | 99.4 | 106.3 | 109.4 | 112.8 | 113.6 | 146.5 |
| 315 | 93.4 | 94.3 | 94.0 | 93.4 | 93.3 | 94.6 | 95.7 | 95.4 | 106.3 | 112.9 | 115.2 | 116.4 | 150.7 |
| 400 | 94.5 | 94.8 | 93.6 | 92.8 | 94.4 | 96.4 | 97.2 | 100.1 | 106.5 | 114.7 | 117.4 | 117.8 | 152.2 |
| 500 | 96.8 | 97.0 | 95.6 | 95.1 | 96.3 | 96.6 | 98.1 | 100.4 | 107.4 | 116.6 | 119.8 | 118.1 | 153.7 |
| 630 | 96.4 | 96.9 | 96.7 | 95.5 | 97.0 | 97.8 | 99.3 | 102.0 | 107.5 | 117.5 | 120.8 | 117.6 | 154.2 |
| 800 | 97.7 | 99.3 | 97.1 | 96.9 | 98.7 | 99.3 | 99.5 | 101.6 | 109.3 | 118.9 | 121.9 | 118.3 | 155.5 |
| 1000 | 100.6 | 100.7 | 98.2 | 98.0 | 99.5 | 100.4 | 101.1 | 103.7 | 111.9 | 119.6 | 123.3 | 117.9 | 156.5 |
| 1250 | 103.3 | 103.8 | 100.8 | 99.9 | 102.7 | 102.6 | 102.0 | 103.7 | 111.9 | 119.6 | 123.3 | 117.9 | 156.5 |
| 1600 | 107.1 | 108.3 | 104.4 | 103.1 | 103.8 | 104.4 | 105.0 | 113.6 | 120.7 | 121.7 | 116.9 | 117.0 | 156.3 |
| 2000 | 111.3 | 112.2 | 106.2 | 105.9 | 105.8 | 104.3 | 105.7 | 112.9 | 119.9 | 120.7 | 116.7 | 116.8 | 156.0 |
| 2500 | 107.6 | 108.2 | 108.0 | 108.0 | 108.0 | 107.3 | 105.5 | 106.7 | 113.2 | 118.6 | 120.4 | 115.1 | 155.3 |
| 3150 | 108.0 | 108.8 | 107.7 | 108.2 | 107.0 | 108.8 | 107.3 | 107.5 | 113.8 | 118.0 | 118.3 | 114.3 | 154.7 |
| 4000 | 106.3 | 106.7 | 105.2 | 105.5 | 104.6 | 107.2 | 108.2 | 109.3 | 113.5 | 117.3 | 112.4 | 112.7 | 153.8 |
| 5000 | 104.8 | 105.5 | 104.7 | 104.8 | 106.2 | 107.3 | 109.2 | 112.1 | 115.3 | 114.2 | 110.9 | 112.2 | 152.4 |
| 6300 | 103.6 | 103.6 | 103.1 | 103.9 | 104.2 | 105.9 | 106.3 | 109.2 | 112.1 | 115.3 | 114.2 | 110.9 | 152.4 |
| 8000 | 102.9 | 104.4 | 102.9 | 103.2 | 103.7 | 105.4 | 106.0 | 107.3 | 111.3 | 114.3 | 113.3 | 110.1 | 151.9 |
| 10000 | 104.2 | 104.6 | 102.7 | 103.4 | 104.3 | 104.7 | 106.4 | 109.7 | 112.7 | 112.3 | 109.3 | 110.1 | 151.4 |
| 12500 | 102.2 | 102.7 | 102.3 | 102.0 | 101.8 | 103.0 | 103.2 | 103.9 | 108.2 | 111.6 | 110.1 | 106.8 | 150.6 |
| 16000 | 100.6 | 100.3 | 100.1 | 99.6 | 99.2 | 100.3 | 100.9 | 103.1 | 105.0 | 109.2 | 108.4 | 104.7 | 149.6 |
| 20000 | 96.7 | 98.2 | 97.2 | 96.7 | 96.4 | 98.1 | 98.2 | 99.6 | 102.9 | 107.1 | 104.8 | 102.4 | 148.7 |
| 25000 | 93.8 | 93.8 | 94.0 | 93.7 | 93.6 | 95.5 | 96.0 | 95.9 | 100.3 | 105.1 | 103.0 | 98.3 | 148.5 |
| 31500 | 88.7 | 90.2 | 89.5 | 88.5 | 89.7 | 91.4 | 91.8 | 92.6 | 99.9 | 102.7 | 101.9 | 95.5 | 149.4 |
| 40000 | 82.8 | 85.3 | 84.1 | 84.1 | 86.1 | 88.0 | 87.9 | 89.1 | 96.8 | 102.0 | 100.3 | 90.8 | 151.4 |
| 50000 | 78.0 | 81.5 | 79.7 | 79.7 | 81.3 | 83.4 | 84.2 | 84.0 | 95.0 | 100.3 | 98.8 | 84.1 | 158.8 |
| 63000 | 73.1 | 78.4 | 74.1 | 74.1 | 77.6 | 78.9 | 80.2 | 79.9 | 95.0 | 100.3 | 98.8 | 84.1 | 158.8 |
| 80000 | 66.4 | 77.3 | 69.0 | 69.9 | 71.2 | 73.4 | 74.7 | 74.4 | 85.2 | 90.4 | 88.9 | 74.3 | 156.1 |
| DBA | 188.6 | 198.0 | 190.7 | 191.4 | 193.2 | 195.1 | 196.3 | 196.2 | 208.4 | 213.7 | 212.3 | 197.9 | 192.0 |
| PWL | 129.8 | 130.6 | 128.9 | 129.0 | 128.6 | 129.9 | 129.7 | 131.0 | 136.3 | 141.5 | 142.8 | 138.8 | 138.7 |
| PNL | 129.8 | 130.6 | 128.9 | 129.0 | 128.6 | 129.9 | 129.7 | 131.0 | 136.3 | 141.5 | 142.8 | 138.8 | 138.7 |
| PNLT | 131.1 | 131.9 | 128.9 | 129.0 | 128.6 | 129.9 | 129.7 | 131.0 | 136.3 | 141.5 | 142.8 | 138.8 | 138.7 |
| DBA | 188.6 | 198.0 | 190.7 | 191.4 | 193.2 | 195.1 | 196.3 | 196.2 | 208.4 | 213.7 | 212.3 | 197.9 | 192.0 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICLE = ADH046 TEST DATE = 08-19-81
 IAPLHA = SB59 LEGA / = NO
 WIND DIR = DEG WIND VEL = MPH
 LOCAT = C41 ANECH CH CONFIG = 4
 PWB AREA = FULL SPHERE TAMB F = 80.00
 MIKE HT = 29.60
 RELHUM = 44.5 PCT
 NBFR =

FNINI = LBS XNLR = RPM XNHR = RPM V8 = 2463.4 FPS AE8 = 25.3 SQ IN
 FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2463.4 FPS AE8 = 25.3 SQ IN
 400-0420 TAPE = X0420F TEST PT NO = 0420 NC = 861 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-0420 X04201

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

72.5 74.3 74.2 74.1 76.1 78.2 78.9 81.4 87.1 94.2 95.4 93.6 87.7 169.6

63 74.7 76.5 76.2 76.4 78.0 78.4 79.8 81.7 88.0 96.1 97.7 93.8 88.0 171.1

80 74.3 76.4 77.3 78.6 79.6 81.0 83.3 88.1 96.9 98.7 93.2 87.0 171.7

100 75.6 78.7 77.6 78.1 80.3 81.0 82.8 89.8 93.9 99.8 89.1 172.9

125 78.3 80.0 78.6 79.2 81.1 82.1 82.7 84.2 91.3 98.8 100.2 93.8 88.8 173.4

160 80.8 83.0 81.1 80.9 84.1 84.2 83.5 84.7 92.2 98.7 100.9 93.0 89.0 174.0

200 84.4 87.2 84.5 86.9 86.4 85.3 85.7 85.9 93.6 99.7 99.0 91.8 88.1 173.8

250 88.3 90.9 86.0 86.5 86.9 85.6 85.4 86.3 92.8 98.5 97.6 91.2 87.2 173.4

315 84.1 86.5 87.7 88.4 88.8 88.3 86.3 87.1 92.7 96.9 96.9 88.9 85.1 172.8

400 84.1 86.7 88.2 87.5 89.5 87.8 87.5 87.5 93.0 95.9 94.3 87.5 83.1 172.1

500 81.9 84.3 84.0 85.2 84.8 87.6 88.4 89.0 92.3 94.8 92.7 85.0 80.3 171.3

630 79.8 82.6 82.1 84.2 84.7 86.3 87.2 88.4 91.6 92.9 91.1 84.0 78.5 170.4

800 78.2 81.7 81.3 83.1 83.9 85.8 86.1 88.3 90.3 92.1 88.8 82.1 77.6 169.9

1000 77.0 80.9 80.9 82.2 83.2 85.1 85.5 86.3 89.3 90.8 87.4 80.6 75.5 169.3

1250 77.8 80.7 81.2 81.5 82.9 84.0 84.1 85.2 87.5 88.8 85.9 79.0 72.9 168.8

1600 75.0 78.2 79.6 80.5 81.0 82.3 82.3 82.4 85.6 87.1 82.9 75.2 69.0 168.0

2000 72.4 75.2 77.1 77.8 78.2 79.5 79.9 79.6 81.4 81.9 84.1 80.1 71.5 167.1

2500 66.7 71.9 73.3 74.3 74.8 76.8 76.6 77.2 79.0 80.8 74.8 66.4 54.9 166.2

3150 60.4 65.0 68.2 69.7 70.6 72.9 73.1 71.9 74.5 76.3 69.7 57.3 41.7 165.9

4000 49.1 56.7 59.9 61.2 63.8 65.8 65.3 60.3 69.3 62.3 45.5 23.5 166.8

5000 33.5 44.2 48.3 51.4 55.1 57.7 57.0 56.5 60.9 61.0 50.9 27.1 168.8

6300 10.9 26.2 31.8 36.2 40.3 43.2 43.1 40.5 48.9 46.5 34.2 0.8 173.0

8000 4.9 11.4 18.5 20.9 21.0 17.2 25.7 20.2 1.0 176.2 173.5

10000 12500 16000

20000 25000 31500 40000 50000 63000 80000

DBA 88.1 91.0 91.0 91.0 91.9 92.4 93.9 94.0 94.9 98.2 100.8 99.2 92.0 87.4

PWL 99.7 102.7 102.0 102.9 102.8 104.2 103.9 104.7 109.5 113.2 112.3 104.4 99.4

PNL 99.0 102.0 101.4 102.3 102.8 104.2 103.9 104.7 108.9 112.6 111.3 104.4 99.4

GASPL 93.5 96.1 95.2 95.7 96.3 97.2 97.1 98.1 103.0 108.3 108.8 102.8 97.9 185.5

MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICLE = ADH046 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLVEL = 400. FPS

IAPLHA = SB59 IEGA = NG PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.60 RELHUM = 44.5 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBRF

FNIN1 = LBS XNL = RPM XNH = RPM XNHR = V8 = 2463.4 FPS AEB = 25.3 SQ IN

FNFRAMB = LBS XNL = RPM XNH = RPM XNHR = V8 = 2463.4 FPS AEB = 25.3 SQ IN

RUNPT = 81F-400-0420 TAPE = X04201 TEST PT NO = 0420 NC = 861 CORR FAN SPEED = RPM

DATPRC - FLIAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

06/18/82 17.409 PAGE 1

IDENTIFICATION - MODEL 81F-ZER-0421 X0421C

BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 86.7 86.0 84.0 86.8 84.1 88.2 88.1 88.8 90.2 97.3 97.2 96.9 97.5 134.1

63 89.5 89.8 89.8 91.6 91.9 92.8 92.3 95.7 91.6 99.7 98.7 100.3 137.4

80 92.3 97.3 91.8 92.4 94.0 97.1 96.7 99.5 97.3 96.7 99.0 101.5 139.0

100 92.6 98.6 93.9 95.9 95.7 97.9 98.5 98.4 98.6 100.2 101.6 105.5 141.8

125 89.1 91.6 93.4 95.2 96.3 98.9 98.5 98.2 99.2 102.2 108.1 111.5 144.8

160 88.3 88.6 90.8 91.1 91.0 93.6 95.5 96.4 98.8 103.7 108.5 111.2 145.8

200 89.8 89.6 90.1 91.6 93.7 97.3 97.2 98.4 103.1 105.4 109.8 114.5 148.1

250 89.5 93.1 92.8 94.4 95.2 96.8 98.5 101.1 104.1 110.9 115.8 118.4 151.9

315 90.1 92.4 91.9 93.2 95.0 98.9 100.0 101.9 107.6 114.2 117.3 118.7 153.3

400 92.8 94.4 94.9 96.3 99.6 101.8 105.9 112.9 119.0 120.8 121.0 118.9 156.0

500 92.7 95.2 94.8 95.5 97.4 99.8 102.1 105.3 111.5 119.3 121.5 118.5 156.2

630 94.1 96.6 95.9 96.9 98.0 100.9 103.5 107.2 112.6 121.9 123.6 122.2 158.1

800 98.0 97.0 97.5 98.0 99.6 101.8 103.6 107.3 113.0 122.1 123.7 122.1 158.1

1000 102.5 103.0 101.3 101.1 101.6 103.8 105.6 114.0 122.8 123.7 121.1 117.8 158.3

1250 104.0 106.5 104.0 104.1 104.7 104.8 106.4 109.1 115.3 123.4 123.2 119.7 158.2

1500 109.8 107.5 104.8 104.4 105.1 107.8 110.4 115.6 123.0 123.1 117.9 114.9 158.0

2000 108.4 109.3 108.7 107.1 106.5 105.6 107.2 110.4 116.0 123.9 121.0 116.1 157.8

2500 106.4 107.4 107.2 108.2 108.8 108.7 108.5 111.0 115.1 122.3 119.4 115.0 156.6

3150 105.0 106.6 106.1 107.9 110.6 111.4 112.3 115.4 119.7 117.0 112.2 108.6 155.1

4000 104.2 104.7 104.3 105.0 106.4 108.8 110.7 112.3 115.4 119.7 117.0 112.2 155.1

5000 102.2 104.0 103.5 104.0 105.7 107.7 109.8 112.1 114.6 118.8 115.8 111.1 154.4

6300 100.8 103.5 103.5 104.5 105.9 107.8 108.8 112.3 113.8 117.7 115.0 110.0 153.9

8000 98.9 101.8 101.9 103.0 104.6 106.6 108.3 111.6 115.4 119.2 113.4 103.9 152.9

10000 98.0 100.5 100.7 102.0 104.5 106.5 107.3 109.7 111.8 115.5 112.7 107.4 152.6

12500 96.3 98.0 99.3 99.8 102.6 104.8 105.8 107.3 110.4 113.4 111.0 104.9 151.6

16000 93.1 96.2 96.5 97.0 99.2 102.4 103.5 106.8 111.5 108.6 113.2 103.2 151.0

20000 90.9 93.1 93.7 95.3 97.5 99.8 100.9 103.5 106.1 109.5 106.4 101.2 150.4

25000 86.8 86.8 90.2 90.4 91.5 94.1 97.7 99.2 102.9 107.4 103.5 99.9 150.2

31500 81.9 86.5 86.0 87.6 90.6 94.4 94.8 97.6 101.3 105.5 101.9 95.8 151.1

40000 77.4 81.9 82.6 83.9 87.2 90.9 92.1 95.2 99.4 101.9 93.7 84.4 152.7

50000 73.1 77.9 78.4 80.0 82.3 87.2 89.3 91.8 96.8 101.2 99.5 89.6 155.1

63000 67.8 73.2 74.0 77.1 79.4 82.8 85.8 89.0 96.2 99.7 98.7 87.2 159.1

80000 62.1 69.6 69.7 72.8 73.9 78.3 80.7 85.1 94.2 97.9 96.6 86.3 163.8

CASPL 115.8 116.7 115.9 116.1 117.1 118.8 119.9 122.4 126.4 133.1 133.0 131.0 128.6 170.6

PNLT 129.4 130.1 128.9 129.5 130.4 132.7 133.3 135.4 139.0 145.1 144.0 140.5 137.5

DBA 116.4 117.1 116.3 116.3 117.1 118.6 119.6 122.1 126.2 133.1 132.5 129.4 126.1

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH030 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CNF10 = 4 MODEL = 4 FLTVL = 0. FPS

IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE EXT DIST = 40.0 FT TAMB F = 75.00 PAMB HG = 29.60 RELHUM = 55.0 PCT

WIND DIR = SB59 DEG WIND/VEL = NO MPH EXT DIST = 40.0 FT EXT CNF10 = ARC MIKE HT = 29.60 NBRF =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2481.0 FPS AE8 = 25.3 SQ IN

FNRAMB = LBS XNL RPM XNH XNHR = RPM V18 = 2481.0 FPS AE18 = 0. SQ IN

CORR FAN SPEED = RPM

TEST PT NO = 0421 NC = 861

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-0421 X0421F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREQ

50 66.7 66.0 64.0 66.6 84.1 88.2 88.1 86.6 90.2 97.3 97.2 96.9 97.5 134.1

63 69.5 69.8 69.8 91.6 91.9 94.3 92.9 91.6 99.7 98.7 100.3 137.4

80 92.3 97.3 91.8 92.4 97.1 96.7 95.9 97.3 96.7 99.0 101.5 103.1 139.0

100 92.6 96.6 93.9 95.9 97.7 97.9 98.5 99.4 98.6 100.2 101.6 105.5 107.4 141.6

125 69.1 91.6 93.4 95.2 96.3 98.9 98.5 98.2 99.2 102.2 108.1 110.0 111.5 144.8

160 88.3 88.6 90.8 91.1 91.0 93.6 95.5 96.4 98.8 103.7 108.5 111.2 114.4 145.8

200 69.6 69.6 90.1 91.6 93.7 97.3 97.2 98.4 103.1 105.4 109.8 114.5 116.1 148.1

250 69.5 93.1 92.8 94.4 95.2 96.8 98.5 101.1 104.1 110.9 115.8 118.5 118.4 151.9

315 90.1 92.4 91.9 93.2 95.0 98.9 100.0 101.9 107.6 114.2 117.3 119.8 118.7 153.3

400 92.8 94.4 94.9 96.3 99.6 101.8 105.9 112.9 119.0 120.8 121.0 118.9 156.0

500 92.7 95.2 94.8 95.5 97.4 99.8 102.1 106.3 111.5 119.3 121.5 121.4 118.5 156.2

630 94.1 96.6 95.9 96.9 98.0 100.9 103.5 107.2 112.6 121.9 123.6 122.2 120.2 158.1

800 98.0 97.5 98.0 97.5 98.0 99.6 101.8 103.6 107.3 113.0 122.1 123.7 122.1 158.1

1000 102.5 103.0 101.3 101.1 101.6 103.6 105.6 108.6 114.0 122.8 123.7 121.1 117.8 158.3

1250 104.0 106.5 104.0 104.1 104.7 104.8 106.4 109.1 115.3 123.4 123.2 119.7 114.9 158.2

1600 109.8 107.5 104.6 104.4 105.1 107.8 110.4 113.6 123.1 117.9 113.9 158.0

2000 108.4 109.3 108.7 107.1 106.5 105.6 107.2 110.4 116.0 123.9 121.0 116.1 112.4 157.8

2500 106.4 107.4 107.2 108.2 108.8 108.7 108.5 111.0 115.1 122.3 119.4 115.0 111.2 156.6

3150 105.0 106.6 105.3 106.1 107.9 111.0 109.6 111.4 115.2 121.1 119.2 108.8 156.1

4000 104.2 104.7 104.3 105.0 106.4 107.7 109.8 112.1 114.6 118.6 115.8 111.1 106.7 154.4

5000 102.2 104.0 103.5 104.0 105.7 107.7 109.8 112.1 114.6 118.6 115.8 111.1 106.7 154.4

6300 100.8 103.5 103.5 104.5 105.9 107.8 108.8 112.3 113.8 117.7 115.0 110.0 105.6 153.9

8000 98.9 101.8 101.9 103.0 104.5 106.6 108.4 110.3 112.6 116.4 113.3 108.1 103.9 152.9

10000 98.0 100.5 100.7 102.0 104.5 106.5 107.3 109.7 111.8 115.5 112.7 107.4 103.5 152.6

12500 96.3 98.0 99.3 99.8 102.6 104.8 105.8 107.3 110.4 113.4 111.0 104.9 100.7 151.6

16000 93.1 96.2 96.5 97.0 99.9 102.4 103.5 106.8 108.6 111.5 108.1 103.2 99.1 151.0

20000 90.9 93.7 95.3 97.5 99.8 100.9 103.5 106.1 109.5 106.4 101.2 96.9 150.4

25000 86.6 90.2 90.4 91.5 94.1 97.7 99.2 99.6 102.9 107.4 103.5 99.9 91.2 150.2

31500 81.9 86.5 86.0 87.6 90.6 94.4 94.8 97.6 101.3 105.5 101.9 95.8 87.5 151.1

40000 77.4 81.9 82.6 83.9 87.3 90.9 92.1 95.2 99.4 101.9 91.6 93.7 84.4 152.7

50000 73.1 77.9 78.4 80.0 82.3 87.2 89.3 91.8 96.8 101.2 99.5 89.6 79.1 155.1

63000 67.8 73.2 74.0 77.1 79.4 82.8 85.8 89.0 96.2 99.7 98.7 87.2 75.9 159.1

80000 62.1 69.6 69.7 72.8 73.9 78.3 80.7 85.1 94.2 97.9 96.6 86.3 68.5 163.8

QASPL 115.8 116.7 115.9 116.1 117.1 118.8 119.9 122.4 126.4 133.1 133.0 131.0 128.6 170.6

PNL 128.2 129.4 128.9 129.5 130.4 132.7 133.3 135.4 139.0 145.1 144.0 140.5 137.5

PNLT 129.4 130.1 128.9 129.5 130.4 133.2 133.3 135.4 139.6 145.1 144.0 140.5 137.5

DBA 184.0 190.8 191.1 194.1 194.1 195.5 199.7 202.2 206.3 214.9 218.6 217.4 206.9 190.9

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH030 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 0. FPS

IAPLHA = SB59 IEGA, = NO PML AREA = FULL SPHERE TAMB F = 75.00 PAMB HG = 29.60 RELHUM = 55.0 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH RPM XNHR = RPM V8 = 2481.0 FPS AE8 = 25.3 SQ IN

FNRAMB = LBS XNL RPM XNHR = RPM V8 = 2481.0 FPS AE8 = 25.3 SQ IN CORR FAN SPEED = RPM

ORIGINAL PAGE 13
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - B1F-ZER-0421 X04211

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREQ 70.6 73.9 75.0 76.2 78.0 81.5 83.5 87.2 93.5 98.5 98.8 96.8 91.4 173.4

63 70.7 74.7 75.3 76.8 79.1 81.6 83.8 86.6 92.1 98.8 99.4 97.1 90.9 173.7

80 72.0 76.1 76.4 78.2 79.7 82.7 85.2 88.4 93.2 101.4 101.5 97.9 92.4 175.5

100 75.8 76.4 78.0 79.3 81.3 83.5 85.3 88.5 93.5 101.5 101.5 97.7 90.2 175.5

125 80.2 82.3 81.7 82.2 83.2 85.5 87.2 89.7 94.4 102.1 101.4 96.6 89.7 175.7

160 81.5 85.7 84.3 85.1 86.1 86.3 87.8 90.1 95.6 102.5 100.8 94.8 86.5 175.6

200 87.0 86.5 86.9 85.7 85.7 86.5 86.5 86.3 87.8 90.1 95.6 102.5 100.8 94.8 86.5 175.6

250 85.4 86.0 86.6 87.7 87.5 86.8 86.3 86.3 86.3 86.3 86.3 86.3 86.3 86.3 86.3 86.3

315 82.9 85.8 86.8 86.6 86.6 86.6 86.6 86.6 86.6 86.6 86.6 86.6 86.6 86.6 86.6 86.6

400 81.0 84.5 84.5 86.1 86.4 86.4 86.4 86.4 86.4 86.4 86.4 86.4 86.4 86.4 86.4 86.4

500 79.8 82.3 83.1 84.8 86.6 86.6 86.6 86.6 86.6 86.6 86.6 86.6 86.6 86.6 86.6 86.6

630 77.2 81.1 82.0 83.5 85.7 87.8 89.8 91.6 93.1 96.0 90.9 83.0 73.3 171.8

800 75.4 80.3 81.7 83.6 85.6 87.7 88.5 91.5 92.0 94.4 89.6 81.2 71.0 171.3

1000 73.1 78.3 79.9 82.0 84.1 86.3 88.0 89.4 90.6 92.9 87.4 78.7 68.2 170.3

1250 71.6 76.6 78.5 80.8 83.9 86.1 88.8 89.6 91.6 93.6 86.3 77.1 66.3 170.1

1600 69.1 73.6 76.7 78.3 81.7 84.2 86.9 87.8 89.0 83.7 73.2 61.1 169.0

2000 64.9 71.2 73.4 75.3 78.9 81.6 82.5 85.1 85.6 86.5 79.9 56.6 168.4

2500 60.9 66.8 69.8 72.9 76.0 78.5 79.4 81.1 82.2 83.2 76.4 49.5 167.9

3150 53.4 61.5 64.6 67.5 71.1 75.1 76.2 77.1 78.7 70.2 58.8 35.3 167.6

4000 42.3 53.0 56.4 60.4 64.7 68.9 68.9 70.3 71.6 72.0 62.3 45.8 17.2 168.5

5000 28.0 40.9 46.7 51.3 56.4 60.6 61.2 62.6 63.5 60.8 52.2 30.1 1.8 170.1

6300 5.9 22.7 30.5 36.6 41.2 47.0 48.3 48.9 45.9 32.4 0.9 176.5 181.2

8000 4.7 14.4 20.2 24.8 26.7 26.7 26.3 26.9 19.6 0.9 176.5 181.2

10000 4.7 14.4 20.2 24.8 26.7 26.7 26.3 26.9 19.6 0.9 176.5 181.2

12500 4.7 14.4 20.2 24.8 26.7 26.7 26.3 26.9 19.6 0.9 176.5 181.2

15000 4.7 14.4 20.2 24.8 26.7 26.7 26.3 26.9 19.6 0.9 176.5 181.2

17500 4.7 14.4 20.2 24.8 26.7 26.7 26.3 26.9 19.6 0.9 176.5 181.2

20000 4.7 14.4 20.2 24.8 26.7 26.7 26.3 26.9 19.6 0.9 176.5 181.2

25000 4.7 14.4 20.2 24.8 26.7 26.7 26.3 26.9 19.6 0.9 176.5 181.2

31500 4.7 14.4 20.2 24.8 26.7 26.7 26.3 26.9 19.6 0.9 176.5 181.2

40000 4.7 14.4 20.2 24.8 26.7 26.7 26.3 26.9 19.6 0.9 176.5 181.2

50000 4.7 14.4 20.2 24.8 26.7 26.7 26.3 26.9 19.6 0.9 176.5 181.2

60000 4.7 14.4 20.2 24.8 26.7 26.7 26.3 26.9 19.6 0.9 176.5 181.2

DBA 85.4 88.7 89.8 91.4 93.5 95.6 96.6 98.3 100.1 103.7 99.5 92.0 83.6

PMLT 97.1 99.6 101.2 102.0 103.8 106.3 106.8 108.7 111.1 116.4 113.4 106.8 97.3

PML 96.5 99.6 100.6 102.0 103.8 106.3 106.8 108.7 111.1 115.8 112.3 105.4 97.3

OSAPL 92.4 94.7 95.2 96.0 97.4 99.1 100.1 102.2 105.7 111.7 110.0 105.4 98.8 187.9

MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NO2. SC-4/NAS3-22514

VEHICL = ADH030 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 0. FPS

IAPLHA = SB59 IEGLA' = NO PWL AREA = FULL SPHERE TAMB F = 75.00 PAMB HG = 29.60 RELHUM = 55.0 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2481.0 FPS AEB = 25.3 SQ IN

FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2481.0 FPS AEB = 25.3 SQ IN

TEST PT NO = 042 NC = 861 CORR FAN SPEED = RPF

RUNPT = -ZER-0421 TAPE = X04211

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-0422 X0422F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

ORIGINAL PAGE 19
OF POOR QUALITY

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 200 | 93.7 | 96.0 | 94.0 | 94.4 | 93.3 | 93.8 | 94.1 | 94.8 | 99.9 | 106.3 | 109.7 | 113.3 | 114.1 | 146.9 |
| 250 | 93.7 | 96.0 | 94.0 | 94.4 | 93.3 | 93.8 | 94.1 | 94.8 | 99.9 | 106.3 | 109.7 | 113.3 | 114.1 | 146.9 |
| 315 | 93.7 | 96.0 | 94.0 | 94.4 | 93.3 | 93.8 | 94.1 | 94.8 | 99.9 | 106.3 | 109.7 | 113.3 | 114.1 | 146.9 |
| 400 | 94.8 | 96.3 | 93.3 | 93.6 | 95.1 | 96.9 | 97.5 | 100.2 | 107.3 | 115.2 | 118.4 | 118.6 | 116.3 | 153.1 |
| 500 | 97.5 | 97.0 | 95.8 | 95.3 | 97.1 | 98.6 | 101.2 | 108.2 | 117.2 | 120.6 | 119.2 | 116.6 | 115.4 | 154.6 |
| 630 | 96.9 | 98.1 | 96.7 | 96.5 | 97.5 | 98.0 | 99.8 | 102.8 | 108.6 | 118.1 | 121.5 | 118.7 | 116.2 | 155.0 |
| 800 | 98.7 | 99.5 | 98.1 | 97.2 | 98.6 | 99.3 | 99.5 | 101.9 | 110.1 | 119.8 | 122.3 | 119.0 | 118.4 | 156.1 |
| 1000 | 101.1 | 99.9 | 98.5 | 98.4 | 100.3 | 101.2 | 102.5 | 103.9 | 112.1 | 120.0 | 123.8 | 118.0 | 117.6 | 156.9 |
| 1250 | 105.4 | 104.6 | 101.2 | 100.7 | 104.0 | 103.1 | 102.5 | 103.9 | 112.1 | 120.0 | 123.8 | 118.0 | 117.6 | 156.9 |
| 1500 | 111.7 | 112.0 | 106.4 | 104.1 | 104.9 | 105.1 | 105.7 | 113.6 | 120.8 | 122.0 | 117.0 | 117.6 | 115.6 | 156.8 |
| 1600 | 111.7 | 112.0 | 106.4 | 104.1 | 104.9 | 105.1 | 105.7 | 113.6 | 120.8 | 122.0 | 117.0 | 117.6 | 115.6 | 156.8 |
| 2000 | 114.7 | 113.1 | 111.3 | 108.2 | 108.8 | 105.9 | 104.8 | 106.2 | 113.1 | 120.6 | 116.6 | 117.0 | 115.6 | 156.6 |
| 2500 | 109.8 | 111.1 | 110.6 | 110.7 | 110.5 | 110.3 | 107.0 | 107.7 | 114.1 | 119.6 | 115.4 | 115.9 | 115.4 | 156.4 |
| 3150 | 109.5 | 110.1 | 108.7 | 109.7 | 108.8 | 111.0 | 109.5 | 108.2 | 114.6 | 119.0 | 118.8 | 114.4 | 115.8 | 155.7 |
| 4000 | 110.9 | 111.2 | 108.9 | 107.6 | 106.1 | 108.2 | 109.9 | 110.3 | 114.3 | 117.6 | 117.6 | 112.4 | 114.2 | 154.9 |
| 5000 | 108.0 | 107.7 | 106.8 | 107.0 | 106.3 | 107.2 | 108.3 | 110.2 | 113.3 | 116.8 | 116.6 | 111.8 | 112.9 | 153.9 |
| 6300 | 106.4 | 107.5 | 105.9 | 105.1 | 106.0 | 107.6 | 107.6 | 109.7 | 112.7 | 115.7 | 114.5 | 110.7 | 111.9 | 153.1 |
| 8000 | 105.2 | 107.1 | 105.2 | 105.4 | 104.1 | 106.4 | 106.9 | 108.7 | 111.8 | 114.6 | 114.3 | 110.1 | 112.0 | 152.8 |
| 10000 | 104.9 | 103.4 | 103.6 | 104.1 | 105.8 | 105.7 | 107.7 | 110.4 | 113.1 | 112.6 | 108.8 | 109.8 | 151.9 | |
| 12500 | 101.7 | 103.2 | 102.1 | 102.6 | 103.3 | 104.0 | 104.1 | 104.8 | 109.0 | 111.1 | 110.6 | 107.1 | 108.5 | 150.9 |
| 15000 | 101.6 | 102.6 | 101.6 | 100.8 | 100.4 | 101.5 | 101.4 | 104.1 | 106.0 | 109.0 | 108.9 | 105.1 | 106.0 | 150.3 |
| 20000 | 98.5 | 99.9 | 99.0 | 98.0 | 97.4 | 99.1 | 99.0 | 99.9 | 103.8 | 107.6 | 105.5 | 101.8 | 100.8 | 149.4 |
| 25000 | 95.3 | 95.8 | 95.2 | 94.9 | 94.3 | 96.5 | 96.7 | 96.8 | 101.8 | 105.3 | 104.0 | 98.8 | 97.3 | 149.3 |
| 31500 | 90.0 | 91.9 | 90.5 | 90.2 | 90.4 | 92.7 | 92.8 | 93.8 | 100.6 | 104.5 | 103.4 | 96.0 | 94.1 | 150.7 |
| 40000 | 84.6 | 87.0 | 86.1 | 85.4 | 87.3 | 88.8 | 88.9 | 90.4 | 98.5 | 103.0 | 101.8 | 93.1 | 89.5 | 152.7 |
| 50000 | 79.5 | 82.2 | 81.7 | 80.9 | 82.8 | 84.6 | 85.2 | 85.7 | 96.3 | 103.2 | 102.4 | 89.9 | 85.0 | 156.6 |
| 63000 | 74.6 | 77.1 | 76.1 | 75.1 | 79.1 | 80.4 | 81.4 | 82.2 | 95.7 | 102.3 | 99.0 | 85.6 | 78.2 | 160.1 |
| 80000 | 68.1 | 72.8 | 71.0 | 71.4 | 73.6 | 74.6 | 76.7 | 76.7 | 85.9 | 92.4 | 89.2 | 75.8 | 68.4 | 157.3 |
| DBA | 190.3 | 194.3 | 192.7 | 193.0 | 195.3 | 196.4 | 198.1 | 198.4 | 209.1 | 215.6 | 212.6 | 199.4 | 192.5 | |
| PWL | 132.6 | 132.7 | 130.9 | 130.6 | 130.5 | 131.6 | 131.1 | 131.9 | 137.0 | 142.2 | 143.2 | 139.0 | 139.6 | |
| PNL | 132.6 | 132.7 | 130.9 | 130.6 | 130.5 | 131.6 | 131.1 | 131.9 | 137.0 | 142.2 | 143.2 | 139.0 | 139.6 | |
| DBA | 190.3 | 194.3 | 192.7 | 193.0 | 195.3 | 196.4 | 198.1 | 198.4 | 209.1 | 215.6 | 212.6 | 199.4 | 192.5 | |

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH047 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CONFIG = 4
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 MIKE HT = 29.60 PAMB HG = 44.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MODEL = 4 FLVEL = 400. FPS
FINI = LBS XNL RPM XNH RPM V8 = 2483.7 FPS AEB = 25.3 SQ IN
FNAMB = LBS XNLR RPM XNHR RPM V18 = 2483.7 FPS AE18 = 0. SQ IN

CORR FAN SPEED = RPM

NC = 861

TEST PT NO = 0422

= X0422F

TAPE

RUNPT = 8

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-0422 X04221

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

| | | | | | | | | | | | | | |
|-------|------|------|------|------|------|------|------|------|------|------|-------|------|-------|
| 72.6 | 75.8 | 73.9 | 74.9 | 76.8 | 78.7 | 79.2 | 81.6 | 87.9 | 94.7 | 96.4 | 94.4 | 88.8 | 170.5 |
| 50 | 72.6 | 75.8 | 73.9 | 74.9 | 76.8 | 78.7 | 79.2 | 81.6 | 87.9 | 94.7 | 96.4 | 94.4 | 88.8 |
| 63 | 75.5 | 77.6 | 77.3 | 76.4 | 76.6 | 78.0 | 78.9 | 80.8 | 96.7 | 98.6 | 94.9 | 89.0 | 172.0 |
| 80 | 74.8 | 77.6 | 77.3 | 76.4 | 76.6 | 78.0 | 78.9 | 80.8 | 96.7 | 98.6 | 94.9 | 89.0 | 172.0 |
| 100 | 76.6 | 78.6 | 78.4 | 80.2 | 81.0 | 83.1 | 83.7 | 84.7 | 91.8 | 98.8 | 101.0 | 94.1 | 174.0 |
| 125 | 78.8 | 79.2 | 78.9 | 79.6 | 81.8 | 83.7 | 84.0 | 84.9 | 92.4 | 99.2 | 101.3 | 93.2 | 174.4 |
| 150 | 82.9 | 83.7 | 81.7 | 85.4 | 87.7 | 88.4 | 84.7 | 84.0 | 92.4 | 99.2 | 101.3 | 93.2 | 174.4 |
| 200 | 89.0 | 91.0 | 86.5 | 84.9 | 86.2 | 86.3 | 86.4 | 86.6 | 93.7 | 99.7 | 99.3 | 91.9 | 174.2 |
| 250 | 91.7 | 91.8 | 91.1 | 88.9 | 89.9 | 87.1 | 85.9 | 86.8 | 93.0 | 99.2 | 97.3 | 91.1 | 174.0 |
| 315 | 86.3 | 89.4 | 90.2 | 91.1 | 91.3 | 91.3 | 87.8 | 88.0 | 93.7 | 97.9 | 94.8 | 87.6 | 173.1 |
| 400 | 85.6 | 88.0 | 87.9 | 89.7 | 89.3 | 91.7 | 90.0 | 88.2 | 93.8 | 96.9 | 94.8 | 87.6 | 173.1 |
| 500 | 86.4 | 88.8 | 87.7 | 87.4 | 86.3 | 88.6 | 90.2 | 90.0 | 93.1 | 95.1 | 93.1 | 85.0 | 172.3 |
| 630 | 83.1 | 84.9 | 85.3 | 86.4 | 86.2 | 87.3 | 88.3 | 89.7 | 91.8 | 93.9 | 91.6 | 83.7 | 171.3 |
| 800 | 80.9 | 83.6 | 83.2 | 84.4 | 83.7 | 86.1 | 86.5 | 87.7 | 89.8 | 91.1 | 88.5 | 80.7 | 170.2 |
| 1000 | 79.3 | 83.6 | 83.2 | 84.4 | 83.7 | 86.1 | 86.5 | 87.7 | 89.8 | 91.1 | 88.5 | 80.7 | 170.2 |
| 1250 | 76.5 | 80.7 | 81.2 | 82.7 | 83.6 | 85.5 | 85.1 | 86.5 | 88.2 | 89.2 | 86.4 | 78.5 | 169.3 |
| 1600 | 74.5 | 78.7 | 79.4 | 81.1 | 82.5 | 83.3 | 83.3 | 83.3 | 83.3 | 86.6 | 83.4 | 75.4 | 168.3 |
| 2000 | 73.4 | 77.5 | 78.6 | 79.1 | 79.4 | 80.8 | 80.4 | 82.4 | 83.0 | 84.0 | 80.7 | 71.8 | 167.7 |
| 2500 | 68.5 | 73.6 | 75.0 | 75.5 | 75.8 | 77.8 | 77.4 | 77.5 | 79.9 | 81.3 | 75.5 | 65.7 | 166.8 |
| 3150 | 61.9 | 67.0 | 69.4 | 70.9 | 71.4 | 73.9 | 73.8 | 72.8 | 76.0 | 76.6 | 70.7 | 57.8 | 166.8 |
| 4000 | 58.4 | 63.0 | 64.5 | 64.5 | 67.2 | 66.8 | 66.6 | 66.6 | 71.0 | 71.0 | 63.8 | 46.0 | 168.2 |
| 5000 | 50.4 | 58.5 | 60.9 | 63.0 | 63.0 | 66.8 | 66.8 | 66.8 | 71.0 | 71.0 | 63.8 | 46.0 | 168.2 |
| 6300 | 42.4 | 46.0 | 50.3 | 52.7 | 56.4 | 58.0 | 57.7 | 57.7 | 62.0 | 62.0 | 52.4 | 29.4 | 170.1 |
| 8000 | 35.2 | 37.5 | 41.8 | 44.4 | 44.4 | 44.1 | 42.3 | 42.3 | 48.4 | 48.0 | 35.2 | 2.1 | 174.0 |
| 10000 | 27.0 | 33.8 | 37.5 | 41.8 | 44.4 | 44.1 | 42.3 | 42.3 | 48.4 | 48.0 | 35.2 | 2.1 | 174.0 |
| 12500 | 22.4 | 28.0 | 32.4 | 36.8 | 41.2 | 45.6 | 49.9 | 54.2 | 58.5 | 62.8 | 67.1 | 71.4 | 174.8 |
| 15000 | 18.0 | 22.4 | 26.8 | 31.2 | 35.6 | 39.9 | 44.2 | 48.5 | 52.8 | 57.1 | 61.4 | 65.7 | 174.8 |
| 17500 | 14.0 | 18.0 | 22.4 | 26.8 | 31.2 | 35.6 | 39.9 | 44.2 | 48.5 | 52.8 | 57.1 | 61.4 | 174.8 |
| 20000 | 10.0 | 14.0 | 18.0 | 22.4 | 26.8 | 31.2 | 35.6 | 39.9 | 44.2 | 48.5 | 52.8 | 57.1 | 174.8 |
| 25000 | 7.0 | 10.0 | 14.0 | 18.0 | 22.4 | 26.8 | 31.2 | 35.6 | 39.9 | 44.2 | 48.5 | 52.8 | 174.8 |
| 31500 | 5.0 | 7.0 | 10.0 | 14.0 | 18.0 | 22.4 | 26.8 | 31.2 | 35.6 | 39.9 | 44.2 | 48.5 | 174.8 |
| 40000 | 3.0 | 5.0 | 7.0 | 10.0 | 14.0 | 18.0 | 22.4 | 26.8 | 31.2 | 35.6 | 39.9 | 44.2 | 174.8 |
| 50000 | 2.0 | 3.0 | 5.0 | 7.0 | 10.0 | 14.0 | 18.0 | 22.4 | 26.8 | 31.2 | 35.6 | 39.9 | 174.8 |
| 63000 | 1.5 | 2.0 | 3.0 | 5.0 | 7.0 | 10.0 | 14.0 | 18.0 | 22.4 | 26.8 | 31.2 | 35.6 | 174.8 |
| 80000 | 1.0 | 1.5 | 2.0 | 3.0 | 5.0 | 7.0 | 10.0 | 14.0 | 18.0 | 22.4 | 26.8 | 31.2 | 174.8 |

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| | | | | | | | | | | | | | | |
|----------------|-------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| GASPL | 96.5 | 98.2 | 97.4 | 97.6 | 98.1 | 98.8 | 98.3 | 98.9 | 103.6 | 108.9 | 109.3 | 103.3 | 98.7 | 186.3 |
| PWL | 101.6 | 103.5 | 103.3 | 104.0 | 104.5 | 105.8 | 105.1 | 105.6 | 109.6 | 113.1 | 111.8 | 104.5 | 100.0 | |
| PWL | 102.3 | 103.5 | 103.9 | 104.5 | 105.8 | 105.1 | 105.6 | 109.6 | 113.1 | 111.8 | 104.5 | 100.0 | | |
| DBA | 90.6 | 93.2 | 93.0 | 93.7 | 93.9 | 95.4 | 95.2 | 95.9 | 98.8 | 101.4 | 99.6 | 92.1 | 88.1 | |
| MODEL AREA | = 163.1 SQ CM (25.3 SQ IN) | | | | | | | | | | | | | |
| SCALED AREA | = 9032.2 SQ CM (1400.0 SQ IN) | | | | | | | | | | | | | |
| DIAMETER RATIO | = 7.442 | | | | | | | | | | | | | |
| FREQ SHIFT | = -9 | | | | | | | | | | | | | |

NASA SHOCK CELL/ANNULAR C-D PLUG NO2. SC-4/NAS3-22514

| | | | | | | | | | | | | | | | | | |
|----------|---|--------------|-----------|------|----------|------------|---|--------------|------------|---|-------|----------------|------|-------|------------|---|----------|
| VEHICL | = | ADH047 | TEST DATE | = | 08-19-81 | LOCAT | = | C41 ANECH CH | CONFIG | = | 4 | MODEL | = | 4 | FLTVEL | = | 400. FPS |
| IAPLHA | = | SB59 | IEGA | = | NO | PWL AREA | = | FULL SPHERE | TAMB F | = | 80.00 | PAMB HG | = | 29.60 | RELHUM | = | 44.5 PCT |
| WIND DIR | = | | DEG | | | EXT DIST | = | 2400.0 FT | EXT CONFIG | = | SL | MIKE HT | = | | NBFR | = | |
| FNINI | = | | LBS | XNL | | RPM | | XNH | RPM | | V8 | FPS | AE8 | = | 25.3 SQ IN | | |
| FNRAMB | = | | LBS | XNLR | | RPM | | XNHR | RPM | | V18 | FPS | AE18 | = | 0. SQ IN | | |
| RUNPT | = | 81F-400-0422 | TAPE | | | TEST PT NO | = | 0422 | NC | = | 861 | CORR FAN SPEED | = | | RPM | | |
| X04221 | | | | | | | | | | | | | | | | | |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-0423 X0423F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|--|----------------------|----------------------|------------------|------------------|-------------------|-------------------|-----------------|-------------------|------------------|-----------------|------------------|-------------------|-----------------|
| 50 | 87.4 | 86.5 | 84.5 | 86.8 | 84.1 | 88.5 | 88.4 | 89.8 | 91.5 | 97.1 | 97.4 | 96.9 | 98.3 |
| 63 | 90.7 | 91.3 | 90.5 | 91.6 | 92.4 | 93.8 | 92.9 | 92.1 | 96.3 | 100.4 | 98.7 | 101.6 | 137.9 |
| 80 | 93.3 | 98.1 | 95.0 | 93.1 | 97.6 | 97.5 | 96.1 | 98.3 | 97.7 | 100.3 | 102.0 | 104.4 | 139.9 |
| 100 | 92.6 | 99.3 | 94.1 | 95.4 | 97.0 | 98.4 | 99.2 | 100.2 | 98.9 | 100.9 | 102.1 | 106.3 | 142.4 |
| 125 | 89.6 | 92.6 | 93.9 | 95.7 | 97.5 | 99.4 | 99.5 | 98.9 | 99.7 | 103.0 | 108.9 | 110.8 | 145.4 |
| 160 | 89.0 | 89.3 | 91.3 | 91.9 | 94.1 | 96.7 | 97.6 | 100.6 | 104.9 | 109.5 | 115.5 | 117.1 | 149.0 |
| 200 | 90.5 | 90.3 | 91.1 | 92.1 | 95.0 | 97.8 | 97.7 | 99.1 | 103.8 | 106.7 | 110.5 | 115.5 | 149.0 |
| 250 | 90.3 | 93.8 | 94.9 | 96.0 | 97.1 | 99.0 | 101.9 | 104.8 | 111.4 | 116.8 | 119.5 | 119.1 | 152.7 |
| 315 | 90.8 | 93.6 | 92.9 | 93.9 | 96.0 | 99.4 | 100.8 | 102.4 | 107.6 | 115.0 | 117.8 | 120.5 | 154.1 |
| 400 | 93.1 | 95.1 | 94.9 | 95.7 | 96.5 | 99.9 | 102.3 | 106.2 | 113.4 | 119.5 | 121.3 | 122.5 | 156.8 |
| 500 | 92.7 | 95.5 | 95.8 | 96.5 | 97.9 | 100.0 | 102.6 | 106.0 | 112.0 | 120.6 | 122.5 | 122.6 | 157.3 |
| 630 | 94.6 | 96.6 | 96.6 | 97.7 | 99.2 | 101.1 | 103.7 | 107.4 | 113.6 | 122.9 | 124.1 | 124.7 | 158.8 |
| 800 | 99.2 | 97.8 | 98.8 | 98.8 | 100.4 | 102.8 | 104.1 | 107.8 | 114.8 | 123.3 | 124.2 | 124.2 | 158.8 |
| 1000 | 104.2 | 103.8 | 102.3 | 102.3 | 101.9 | 104.3 | 106.1 | 109.1 | 115.5 | 123.6 | 124.5 | 121.6 | 159.0 |
| 1250 | 106.5 | 108.3 | 105.8 | 104.6 | 104.9 | 105.5 | 106.7 | 109.8 | 116.3 | 124.1 | 124.2 | 120.2 | 159.0 |
| 1500 | 110.8 | 109.3 | 106.8 | 106.8 | 105.4 | 105.8 | 108.5 | 111.2 | 116.8 | 124.2 | 123.6 | 117.1 | 158.9 |
| 1600 | 110.8 | 109.3 | 106.8 | 106.8 | 105.4 | 105.8 | 108.5 | 111.2 | 116.8 | 124.2 | 123.6 | 117.1 | 158.9 |
| 2000 | 108.4 | 110.1 | 109.4 | 108.2 | 109.2 | 110.3 | 109.5 | 111.7 | 116.6 | 124.5 | 119.7 | 115.2 | 158.2 |
| 2500 | 106.9 | 107.7 | 107.0 | 109.2 | 110.3 | 111.2 | 109.5 | 111.7 | 116.6 | 124.5 | 119.7 | 115.2 | 158.2 |
| 3150 | 105.5 | 106.6 | 105.8 | 106.9 | 108.4 | 111.5 | 111.6 | 112.4 | 116.4 | 122.1 | 119.2 | 113.2 | 156.9 |
| 4000 | 103.7 | 105.0 | 107.1 | 108.0 | 109.2 | 110.6 | 113.4 | 116.1 | 119.8 | 116.6 | 111.3 | 107.2 | 155.4 |
| 5000 | 101.9 | 103.5 | 103.0 | 104.5 | 106.7 | 109.2 | 110.6 | 113.4 | 116.1 | 119.8 | 116.6 | 111.3 | 155.4 |
| 6300 | 100.8 | 103.0 | 103.2 | 104.2 | 106.4 | 108.3 | 110.1 | 113.1 | 114.8 | 118.9 | 114.7 | 110.5 | 154.6 |
| 8000 | 98.9 | 101.1 | 102.1 | 103.0 | 104.8 | 107.6 | 109.7 | 111.8 | 113.6 | 117.7 | 113.5 | 108.9 | 153.8 |
| 10000 | 98.0 | 100.2 | 102.8 | 105.0 | 107.2 | 108.1 | 110.7 | 112.6 | 114.7 | 116.7 | 112.7 | 108.1 | 153.5 |
| 12500 | 96.3 | 98.5 | 99.3 | 100.6 | 103.1 | 105.1 | 107.0 | 108.6 | 111.7 | 114.7 | 111.5 | 106.1 | 152.6 |
| 15000 | 92.8 | 96.7 | 97.0 | 97.8 | 100.6 | 102.9 | 104.2 | 107.0 | 109.6 | 113.0 | 108.8 | 103.4 | 151.9 |
| 20000 | 91.1 | 95.8 | 98.0 | 98.0 | 100.6 | 102.2 | 104.0 | 106.4 | 109.7 | 106.2 | 101.5 | 96.9 | 150.7 |
| 25000 | 86.5 | 90.2 | 92.2 | 94.8 | 96.7 | 99.7 | 100.6 | 104.4 | 107.7 | 103.8 | 99.1 | 91.9 | 150.7 |
| 31500 | 81.6 | 86.2 | 88.5 | 88.1 | 91.1 | 94.9 | 96.3 | 98.6 | 102.3 | 105.7 | 102.4 | 95.8 | 151.6 |
| 40000 | 77.6 | 81.7 | 83.6 | 84.4 | 87.6 | 91.4 | 93.6 | 95.5 | 100.4 | 102.9 | 101.4 | 94.5 | 153.3 |
| 50000 | 73.3 | 77.4 | 78.2 | 80.3 | 83.5 | 87.5 | 90.1 | 92.3 | 98.3 | 103.2 | 100.8 | 90.4 | 156.6 |
| 63000 | 67.1 | 73.2 | 73.7 | 78.3 | 80.1 | 83.8 | 87.1 | 90.0 | 96.7 | 102.2 | 98.9 | 88.2 | 160.5 |
| 80000 | 61.6 | 70.1 | 70.5 | 73.6 | 74.7 | 79.6 | 83.7 | 86.1 | 95.4 | 98.1 | 96.9 | 81.8 | 164.3 |
| GASPL | 116.5 | 117.3 | 116.6 | 117.1 | 118.0 | 119.8 | 121.0 | 123.3 | 127.6 | 134.3 | 133.5 | 131.8 | 171.5 |
| PNL | 128.7 | 129.9 | 129.2 | 130.5 | 131.5 | 133.5 | 134.5 | 136.4 | 140.3 | 146.6 | 144.3 | 141.1 | 137.9 |
| PNLT | 129.8 | 130.5 | 129.2 | 130.5 | 132.1 | 134.0 | 134.5 | 136.4 | 140.9 | 146.6 | 144.1 | 141.1 | 137.9 |
| DBA | 183.6 | 191.2 | 191.6 | 194.9 | 196.3 | 200.8 | 204.7 | 207.2 | 216.1 | 219.2 | 217.6 | 203.7 | 191.1 |
| MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES | | | | | | | | | | | | | |
| NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514 | | | | | | | | | | | | | |
| VEHICL = ADH031 | TEST DATE = 08-19-81 | LOCAT = C41 ANECH CH | CONFIG = 4 | MODEL = 4 | FLTVEL = 0. FPS | RELHUM = 55.0 PCT | MIKE HT = 29.60 | PAMB HG = 75.00 | EXT CONFIG = ARC | TAMB F = 75.00 | MIKE HT = 29.60 | RELHUM = 55.0 PCT | 0. FPS |
| WIND DIR = SB59 | WIND VEL = DEG | EXT DIST = 40.0 FT | EXT CONFIG = ARC | MIKE HT = 29.60 | RELHUM = 55.0 PCT | 0. FPS | FLTVEL = 0. FPS | RELHUM = 55.0 PCT | MIKE HT = 29.60 | PAMB HG = 75.00 | EXT CONFIG = ARC | TAMB F = 75.00 | MIKE HT = 29.60 |
| FNIN1 = | LBS XNL = | RPM = | XNH = | RPM = | V8 = | FPS = | AE8 = | 25.3 SQ IN = | 0. SQ IN = | 0. SQ IN = | 0. SQ IN = | 0. SQ IN = | 0. SQ IN = |
| FNAMB = | LBS XNL = | RPM = | XNHR = | RPM = | V8 = | FPS = | AE8 = | 25.3 SQ IN = | 0. SQ IN = | 0. SQ IN = | 0. SQ IN = | 0. SQ IN = | 0. SQ IN = |
| RUNPT = 81F-ZER-0423 | TAPE = X0423F | TEST PT NO = 0423 | NC = 861 | CORR FAN SPEED = | RPM = | 0. SQ IN = | 0. SQ IN = | 0. SQ IN = | 0. SQ IN = | 0. SQ IN = | 0. SQ IN = | 0. SQ IN = | 0. SQ IN = |

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - RIF-ZER-0423 X04231

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | PWL |
|---|--|------------|------------------------|------------|--------------|-----------------|-----------|------------|-----------|------------------|------------|-------|--------|
| 50 | 71.1 | 74.6 | 75.5 | 77.0 | 78.2 | 81.7 | 84.0 | 87.5 | 94.0 | 99.0 | 99.3 | 98.3 | 92.1 |
| 60 | 70.7 | 75.0 | 76.3 | 77.8 | 79.6 | 81.8 | 84.3 | 87.3 | 92.6 | 100.1 | 100.4 | 98.4 | 91.9 |
| 80 | 72.5 | 76.1 | 77.2 | 78.9 | 80.9 | 82.9 | 85.4 | 88.7 | 94.2 | 102.4 | 102.7 | 98.4 | 92.7 |
| 100 | 77.0 | 76.9 | 78.2 | 80.0 | 82.0 | 84.5 | 85.8 | 89.0 | 95.2 | 102.7 | 102.0 | 98.0 | 90.9 |
| 125 | 81.9 | 83.1 | 82.7 | 83.4 | 86.0 | 87.7 | 90.2 | 95.9 | 102.9 | 102.2 | 97.1 | 89.2 | 176.4 |
| 150 | 84.0 | 87.4 | 86.1 | 85.6 | 86.3 | 87.1 | 88.1 | 90.8 | 96.6 | 103.3 | 101.8 | 95.3 | 87.2 |
| 200 | 88.0 | 88.2 | 88.9 | 87.7 | 86.7 | 87.2 | 89.8 | 92.0 | 96.9 | 103.2 | 100.9 | 93.5 | 85.3 |
| 250 | 85.4 | 88.7 | 89.1 | 89.0 | 89.5 | 88.8 | 89.0 | 92.0 | 97.3 | 103.8 | 98.0 | 91.5 | 83.3 |
| 315 | 83.4 | 86.0 | 86.5 | 86.6 | 89.6 | 91.1 | 92.2 | 90.3 | 92.1 | 96.2 | 102.9 | 96.2 | 89.1 |
| 400 | 81.5 | 84.5 | 85.0 | 86.9 | 88.9 | 92.2 | 92.1 | 92.4 | 95.6 | 100.0 | 95.3 | 87.4 | 77.9 |
| 500 | 79.3 | 82.5 | 83.9 | 85.8 | 87.3 | 90.2 | 92.4 | 93.3 | 95.8 | 98.0 | 92.8 | 85.7 | 76.2 |
| 630 | 77.0 | 80.6 | 81.5 | 84.0 | 86.7 | 89.3 | 90.5 | 92.8 | 94.6 | 97.0 | 91.6 | 83.2 | 73.8 |
| 800 | 75.4 | 79.4 | 80.1 | 83.4 | 86.1 | 89.2 | 89.8 | 92.2 | 93.0 | 95.7 | 89.3 | 81.7 | 71.5 |
| 1000 | 73.1 | 77.6 | 80.1 | 82.0 | 84.3 | 87.3 | 89.2 | 90.9 | 91.6 | 94.1 | 87.7 | 79.4 | 69.2 |
| 1250 | 71.6 | 76.3 | 78.8 | 81.6 | 84.4 | 86.9 | 87.5 | 89.5 | 90.4 | 92.8 | 88.3 | 77.8 | 66.3 |
| 1500 | 69.1 | 74.1 | 76.7 | 79.1 | 82.2 | 84.4 | 86.2 | 87.1 | 89.0 | 90.2 | 84.2 | 74.5 | 61.9 |
| 1600 | 69.1 | 74.1 | 76.7 | 79.1 | 82.2 | 84.4 | 86.2 | 87.1 | 89.0 | 90.2 | 84.2 | 74.5 | 61.9 |
| 2000 | 64.6 | 71.7 | 73.9 | 76.1 | 79.6 | 82.1 | 83.2 | 85.3 | 86.6 | 88.0 | 80.6 | 70.1 | 56.6 |
| 2500 | 61.1 | 67.1 | 70.1 | 73.4 | 76.5 | 79.2 | 80.6 | 81.6 | 82.5 | 83.4 | 76.1 | 65.4 | 49.5 |
| 3150 | 53.2 | 61.5 | 64.9 | 68.3 | 71.9 | 76.1 | 76.7 | 76.7 | 78.6 | 78.9 | 70.4 | 58.1 | 36.1 |
| 4000 | 42.0 | 52.8 | 56.9 | 60.9 | 65.2 | 69.4 | 70.4 | 71.3 | 72.6 | 72.2 | 62.8 | 45.8 | 17.2 |
| 5000 | 28.2 | 40.7 | 47.7 | 51.8 | 56.7 | 61.1 | 62.7 | 62.8 | 64.5 | 61.8 | 52.0 | 30.8 | 170.7 |
| 6300 | 6.2 | 22.2 | 30.2 | 36.8 | 42.5 | 47.2 | 49.0 | 48.8 | 50.4 | 47.9 | 33.6 | 2.6 | 174.1 |
| 8000 | | 4.5 | 15.7 | 21.0 | 25.8 | 27.9 | 27.3 | 27.4 | 22.1 | 1.1 | | | 177.9 |
| 10000 | | | | | | | | | | | | | 181.7 |
| 12500 | | | | | | | | | | | | | |
| 15000 | | | | | | | | | | | | | |
| 20000 | | | | | | | | | | | | | |
| 25000 | | | | | | | | | | | | | |
| 31500 | | | | | | | | | | | | | |
| 40000 | | | | | | | | | | | | | |
| 50000 | | | | | | | | | | | | | |
| 63000 | | | | | | | | | | | | | |
| 80000 | | | | | | | | | | | | | |
| DBA | 85.6 | 88.9 | 90.1 | 92.1 | 94.2 | 96.6 | 97.7 | 99.4 | 101.4 | 104.9 | 99.8 | 92.6 | 83.9 |
| PNLT | 97.7 | 100.1 | 101.1 | 102.9 | 104.8 | 107.1 | 108.0 | 109.5 | 112.3 | 117.6 | 113.5 | 107.4 | 97.7 |
| PWL | 97.1 | 100.1 | 101.1 | 102.9 | 104.8 | 107.1 | 108.0 | 109.5 | 112.3 | 116.9 | 112.7 | 106.0 | 97.7 |
| DBA | 85.6 | 88.9 | 90.1 | 92.1 | 94.2 | 96.6 | 97.7 | 99.4 | 101.4 | 104.9 | 99.8 | 92.6 | 83.9 |
| MODEL AREA = 163.1 SQ CM (25.3 SQ IN) | SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9 | | | | | | | | | | | | |
| NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514 | | | | | | | | | | | | | |
| VEHICL = ADH031 | TEST DATE = 08-19-81 | LOCAT = | C41 ANECH CH | CONFIG = 4 | MODEL = | 4 | PAMB HG = | 29.60 | MIKE HT = | | NBFR = | | 0. FPS |
| IAPLHA = SB59 | IEGA = | NO | PWL AREA = FULL SPHERE | TAMB F = | 75.00 | EXT CONFIG = SL | | | | | | | |
| WIND DIR = | DEG | WIND VEL = | MPH | EXT DIST = | 2400.0 FT | EXT CONFIG = | SL | | | | | | |
| FNINI = | LBS | XNLR | RPM | XNHR | RPM | V8 | = | 2532.9 FPS | AE8 | = | 25.3 SQ IN | | |
| FNRAMB = | LBS | XNLR | RPM | XNHR | RPM | V8 | = | 2532.9 FPS | AE8 | = | 25.3 SQ IN | | |
| RUNPT = | ER-0423 | TAPE | = | X04231 | TEST PT NO = | 0423 | NC | = | 861 | CORR FAN SPEED = | | | RPM |

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DATPRG - FLIRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARCIDENTIFICATION - MODEL 81F-400-0424 X0424C
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 90.9 89.7 85.0 86.5 84.9 87.7 87.4 89.0 90.2 95.3 97.7 97.1 100.5 134.5

63 91.5 91.8 91.3 91.8 91.7 93.8 92.9 93.1 95.5 101.1 101.0 99.9 101.8 138.3

80 93.5 98.3 92.6 93.9 95.0 97.3 97.7 96.4 97.8 96.7 99.5 101.5 105.1 139.8

100 93.6 98.6 93.9 95.2 96.5 97.3 99.2 99.0 99.5 99.7 98.1 98.7 100.8 142.0

125 90.6 93.1 93.7 95.4 97.3 99.2 99.0 98.2 98.4 101.0 107.1 110.0 112.2 144.8

150 86.3 90.8 90.9 90.9 90.5 92.8 94.2 95.4 98.1 102.9 108.0 110.7 114.1 145.4

200 88.5 88.6 88.6 88.6 89.4 91.7 94.1 95.5 97.6 101.3 102.9 108.0 113.5 147.2

250 87.3 90.8 91.9 91.9 93.0 94.6 96.7 99.4 101.6 104.4 111.7 115.6 118.8 151.9

315 88.1 90.4 90.1 90.9 92.3 96.4 98.0 99.4 104.4 111.7 115.6 118.8 117.9 151.9

400 90.1 91.4 91.4 92.4 93.8 97.9 99.8 103.7 110.1 116.5 119.8 120.0 116.4 154.4

500 89.7 92.7 93.0 94.0 95.6 98.0 100.1 103.8 109.0 118.3 121.2 120.1 114.3 155.2

630 91.8 94.1 93.9 94.7 96.0 98.6 101.5 105.7 110.9 120.4 123.3 120.3 112.9 156.7

800 96.0 95.5 95.0 95.8 98.1 99.5 101.6 105.3 110.5 120.8 123.5 119.1 109.6 156.7

1000 103.7 103.3 99.8 99.8 100.4 101.5 103.2 106.6 111.5 123.7 117.7 107.1 157.1

1250 107.7 109.5 104.3 103.1 103.4 104.2 107.3 113.3 122.4 124.5 117.2 108.2 157.9

1500 108.0 109.3 109.3 108.4 105.2 104.6 106.5 108.5 114.3 122.2 124.4 116.2 107.5 158.0

2000 105.9 107.8 107.5 109.1 109.5 107.3 106.2 109.1 115.0 123.4 122.5 114.9 107.6 157.8

2500 103.2 105.0 104.2 106.3 108.1 110.2 108.5 109.8 114.6 122.8 120.2 113.5 106.5 156.8

3150 102.3 103.6 103.6 105.5 109.0 110.4 110.1 114.4 121.4 120.2 111.9 105.1 156.0

4000 100.7 101.8 102.0 103.0 104.4 106.6 109.5 111.8 115.2 119.5 117.7 110.7 104.4 154.7

5000 99.2 100.5 100.0 101.3 103.2 105.7 107.6 111.6 114.6 118.6 117.1 108.6 102.2 154.0

6300 98.4 100.3 98.9 100.2 103.2 105.4 107.1 110.8 113.8 117.2 115.5 108.8 101.4 153.2

8000 96.2 98.7 98.9 99.6 101.1 104.6 106.5 109.7 113.1 116.3 114.4 107.2 100.5 152.6

10000 95.6 96.8 97.3 99.3 101.1 103.6 105.7 108.5 111.7 115.1 113.5 106.0 99.8 152.0

12500 93.2 94.7 95.5 96.5 98.0 100.2 103.7 106.0 109.8 112.1 104.5 97.5 150.9

15000 93.0 93.2 94.2 96.3 99.5 101.2 104.7 108.3 110.8 109.3 102.3 95.6 150.1

20000 87.6 88.9 90.6 91.8 93.3 97.1 98.5 101.3 105.5 107.8 106.5 99.8 149.0

25000 82.7 86.4 86.1 89.6 90.7 93.8 96.1 97.8 102.3 106.4 103.4 97.3 148.9

31500 78.4 82.0 82.1 84.4 86.6 90.7 92.1 94.6 99.8 103.6 101.5 93.3 149.3

40000 74.2 77.9 78.3 80.1 83.2 87.0 89.0 91.6 97.6 101.1 99.5 90.1 150.9

50000 70.0 73.7 73.7 76.5 78.9 83.4 85.2 87.5 94.8 100.3 97.5 86.0 153.4

63000 64.7 70.4 70.0 75.0 75.3 78.9 81.2 83.7 92.9 99.8 97.1 81.6 157.8

80000 60.7 68.8 67.4 70.7 70.0 73.6 76.2 79.0 91.1 97.6 93.0 75.4 162.0

CASPL 114.5 116.0 114.8 115.4 116.0 117.6 118.7 121.1 125.4 132.4 133.3 129.2 125.5 169.7

PNLT 126.2 129.4 128.3 128.3 130.0 131.9 132.4 134.5 138.9 144.9 144.6 139.0 133.6

DBA 115.0 116.4 115.3 115.9 116.4 117.6 118.6 120.9 125.3 132.6 133.1 127.4 120.9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH048 TEST DATE = 08-19-81 LOCAL AREA = C41 ANECH CH CONFIG = 4
IAPLHA = SB59 EXT AREA = FULL SPHERE TAMB F = 80.00 MODEL = 4
WIND DIR = DEG WIND, VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = 29.60
FNINI = LBS XNLR = RPM XNH = RPM V8 = 2537.2 FPS AEB = 25.3 SO IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = FPS AE18 = 0. SO IN
RUMPT = 81F-400-0424 TAPE = X0424C TEST PT NO = 0424 NC = 861 CORR FAN SPEED = RPMORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-0424 X0424F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

250 95.2 97.3 94.8 95.2 94.6 94.6 94.8 95.8 100.9 107.3 110.7 114.3 115.3 148.0
315 95.2 97.3 94.8 95.2 94.1 96.6 96.7 96.6 108.0 113.6 116.7 117.7 116.6 152.0
400 95.8 96.8 95.1 94.3 95.6 98.1 99.0 101.8 107.3 116.3 119.2 119.6 117.3 154.0
500 97.8 97.8 96.3 95.8 97.5 98.3 99.4 102.0 109.0 117.8 120.5 117.9 155.6
630 97.4 99.1 98.0 97.5 98.0 99.0 100.6 103.6 109.0 119.0 122.1 120.7 117.3 156.1
800 99.5 100.5 98.9 98.2 100.0 100.8 103.2 110.5 120.6 123.2 120.6 119.5 157.1
1000 102.1 100.9 99.4 98.9 102.1 102.2 104.6 112.2 121.0 123.8 119.9 118.5 157.4
1250 110.7 109.0 104.1 102.7 105.3 104.1 103.5 105.4 113.4 121.0 123.8 119.0 117.8 157.5
1500 115.0 116.3 106.3 107.1 105.6 106.1 106.7 114.3 122.4 122.1 117.9 118.2 158.0
2000 114.6 113.5 111.3 111.9 108.6 106.0 107.7 114.3 122.2 120.1 116.9 117.4 157.7
2500 111.9 113.2 112.0 112.6 111.0 111.8 108.7 114.6 121.2 120.6 115.7 116.4 157.3
3150 110.8 111.6 109.7 110.4 108.7 111.0 111.0 109.4 116.0 119.9 118.7 115.0 156.4
4000 109.8 110.2 107.9 108.0 107.3 108.7 111.7 115.4 118.9 117.7 112.3 112.9 155.4
5000 108.3 108.5 107.8 107.7 107.3 108.7 110.9 114.7 117.7 116.4 112.9 112.8 154.7
6300 106.6 107.2 105.9 106.1 107.2 108.4 110.9 114.2 116.8 115.3 111.3 111.9 154.0
8000 105.7 106.9 105.4 104.9 105.7 107.6 109.7 112.9 115.9 114.8 110.5 111.7 153.5
10000 106.2 107.3 106.2 105.2 105.7 106.6 107.1 108.6 111.3 113.6 109.2 109.6 152.9
12500 105.2 105.2 104.3 104.7 103.6 105.0 106.0 110.4 112.4 111.3 107.6 108.2 152.1
15000 102.3 102.6 101.9 101.3 100.9 102.5 102.6 104.8 107.9 109.9 105.6 106.2 151.0
20000 99.0 100.4 99.2 98.7 97.9 100.1 99.9 101.4 105.3 108.8 106.2 103.1 150.4
25000 95.8 96.0 95.7 95.3 96.8 97.5 97.8 103.5 106.8 105.0 99.8 98.3 150.5
31500 90.0 92.4 90.7 92.7 91.2 93.7 93.5 94.6 102.1 105.2 103.9 97.5 151.6
40000 84.8 87.3 85.9 86.6 87.8 90.0 90.4 91.6 99.8 104.8 102.3 93.8 153.9
50000 80.3 82.7 81.7 81.9 83.5 86.4 86.7 87.5 98.8 105.2 102.9 90.4 158.1
63000 75.1 77.6 76.1 77.4 79.9 81.9 82.7 83.7 98.5 104.5 100.3 85.6 162.2
80000 68.4 72.8 71.0 74.4 74.6 76.6 77.7 78.9 88.7 94.7 90.4 75.8 159.4

DBA 190.7 194.4 192.7 195.5 196.2 198.3 199.2 200.4 211.8 217.9 213.8 199.5 193.3
PNLT 133.3 135.6 133.1 132.1 131.5 132.3 132.2 133.2 138.8 143.4 143.4 139.7 139.9
PNL 133.3 133.8 132.1 132.1 131.5 132.3 132.2 133.2 138.2 143.4 143.4 139.7 139.9
DASPL 121.4 121.9 119.6 119.1 118.9 119.4 119.1 120.4 125.5 131.6 132.6 129.8 128.8 170.2

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH048 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONFIG = 4
IAPLHA = SB59 PML AREA = FULL SPHERE TAMB F = 80.00 MIKE HT = 29.60
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC NBFR =

FNINI = LBS XNLR = RPM XNHR = RPM V8 = 2537.2 FPS AE8 = 25.3 SQ IN
FNFRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2537.2 FPS AE8 = 25.3 SQ IN
RUNPT = 100-0424 TAPE = X0424F TEST PT NO = 0424 NC = 861 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-0424 X04241

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

73.8 76.3 75.7 75.6 77.3 80.0 80.7 83.1 87.9 95.8 97.2 95.4 89.8 171.4
63 77.7 77.3 76.9 79.2 81.1 83.3 89.7 97.8 99.4 96.3 90.3 173.1
80 75.3 76.6 78.5 78.8 79.6 80.8 82.3 84.9 89.5 98.5 100.0 96.3 89.6 173.5
100 77.3 79.9 79.4 79.4 81.6 81.8 82.4 84.4 90.9 100.0 101.0 96.2 91.6 174.6
125 79.9 80.2 79.8 80.1 83.6 84.0 85.8 92.6 100.3 101.5 95.3 90.4 174.8
160 88.2 88.1 84.3 83.7 86.7 85.7 85.0 86.4 93.6 100.2 101.3 94.2 89.4 175.0
200 92.3 94.5 89.1 87.1 88.4 87.0 87.4 87.6 94.4 101.4 99.4 92.7 89.3 175.4
250 91.6 93.4 92.0 92.9 89.8 87.1 88.3 94.1 100.9 97.1 91.3 87.9 175.1
315 88.4 91.5 92.9 91.6 92.8 89.5 89.0 94.1 99.5 97.2 89.6 86.0 174.7
400 86.8 89.5 88.9 90.5 89.2 91.7 91.5 89.5 95.2 97.9 94.7 88.2 84.7 173.8
500 85.4 87.8 86.8 87.7 88.3 89.6 90.9 91.5 94.2 96.4 93.2 84.8 80.5 172.8
630 83.3 85.6 86.3 87.2 88.8 89.0 91.1 93.3 94.8 91.5 84.8 79.4 172.1
800 81.2 84.0 85.3 86.9 88.3 89.0 91.1 93.3 94.8 91.5 84.8 79.4 172.1
1000 79.8 83.4 83.9 84.0 85.1 86.2 86.6 87.4 89.1 90.1 87.2 78.9 72.5 170.4
1250 79.8 83.5 83.9 84.0 85.1 86.2 86.6 87.4 89.1 90.1 87.2 78.9 72.5 170.4
1600 78.0 80.7 81.6 82.7 83.8 84.5 84.5 87.7 87.9 84.1 76.0 68.7 169.5
2000 74.1 77.5 78.8 79.6 79.9 81.6 81.6 84.9 84.8 80.8 72.3 63.6 168.5
2500 69.0 74.1 75.3 76.3 76.3 78.8 78.4 79.0 81.4 82.5 76.2 67.0 64.3 167.9
3150 62.4 67.0 70.2 71.7 72.4 74.2 74.5 73.8 77.7 78.1 71.7 58.8 42.4 167.9
4000 50.4 59.0 61.1 65.5 65.3 68.2 67.6 67.3 72.5 71.8 64.3 47.5 24.3 169.1
5000 35.5 46.2 50.0 53.9 56.9 59.7 59.5 59.0 63.9 63.7 52.9 30.1 171.3
6300 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6
8000 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6
10000 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6
12500 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6
15000 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6
17500 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6
20000 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6
22500 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6
25000 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6
27500 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6
30000 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6
32500 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6
35000 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6
37500 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6
40000 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6
42500 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6
45000 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6
47500 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6
50000 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6
52500 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6
55000 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6
57500 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6
60000 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6

ORIGINAL PAGE 13
OF POOR QUALITY

NASA SHOCK CELL/ANNULAR C-D PLUG NO2. SC-4/NA53-22514

MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

QASPL 97.9 100.1 98.8 99.1 99.4 99.9 99.4 100.1 104.6 110.1 109.7 104.5 99.4 187.5
PNLT 102.4 105.0 104.8 105.4 105.5 106.5 106.3 106.8 110.8 114.4 112.1 105.3 100.5
PNLT 102.4 105.9 105.4 105.4 105.5 106.5 106.3 106.8 110.8 115.1 113.0 106.4 100.5
DBA 91.6 94.2 94.0 94.7 95.1 96.3 96.2 97.1 100.0 102.6 99.8 92.7 88.2

VEHICL = ADH048 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH C0NF1G = 4 MODEL = 4 FLTVEL = 400. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.60 RELHUM = 44.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT C0NF1G = SL MIKE HT = NBRF =

FNINI = LBS XNL = RPM XNH = RPM V8 = 2537.2 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2537.2 FPS AE18 = 0. SQ IN

RUNPT = 81F-400-0424 TAPE = X04241 TEST PT NO = 0424 NC = 861 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-0449 X0449C
BACKGROUND 81F-400-0400
ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 82.4 | 81.7 | 79.5 | 79.3 | 80.1 | 80.7 | 81.1 | 86.3 | 87.2 | 86.3 | 95.7 | 112.6 | 95.5 |
| 63 | 84.7 | 85.3 | 86.0 | 85.1 | 86.2 | 88.0 | 87.4 | 89.8 | 92.8 | 90.9 | 99.0 | 108.4 | 98.3 |
| 80 | 87.0 | 92.3 | 87.8 | 87.4 | 88.0 | 90.8 | 91.7 | 91.1 | 92.3 | 91.9 | 94.5 | 111.2 | 97.6 |
| 100 | 87.1 | 92.6 | 87.9 | 90.2 | 91.0 | 91.6 | 92.5 | 93.4 | 93.1 | 95.7 | 96.8 | 106.5 | 101.2 |
| 125 | 84.4 | 87.9 | 89.2 | 90.4 | 91.3 | 93.2 | 93.3 | 93.2 | 94.2 | 97.2 | 103.4 | 110.3 | 105.5 |
| 160 | 83.8 | 83.6 | 86.6 | 86.4 | 87.0 | 88.3 | 90.0 | 90.6 | 93.3 | 98.2 | 102.8 | 106.2 | 107.6 |
| 200 | 84.8 | 84.8 | 86.1 | 86.6 | 89.0 | 91.3 | 91.2 | 94.1 | 98.8 | 101.4 | 105.5 | 107.5 | 110.1 |
| 250 | 85.3 | 89.6 | 88.6 | 89.6 | 90.5 | 92.1 | 94.7 | 96.6 | 100.3 | 106.9 | 111.0 | 109.5 | 112.6 |
| 315 | 85.6 | 88.9 | 88.6 | 89.2 | 91.5 | 94.4 | 96.0 | 97.7 | 102.9 | 109.2 | 112.3 | 110.0 | 113.4 |
| 400 | 86.1 | 89.9 | 90.4 | 90.9 | 91.5 | 94.6 | 97.3 | 100.2 | 107.1 | 114.7 | 116.8 | 112.0 | 113.9 |
| 500 | 87.5 | 91.2 | 90.8 | 92.0 | 93.9 | 95.8 | 98.4 | 101.3 | 107.5 | 114.8 | 117.5 | 112.9 | 114.3 |
| 630 | 89.1 | 92.3 | 92.1 | 93.2 | 95.0 | 96.9 | 99.2 | 102.9 | 107.9 | 116.7 | 119.8 | 114.2 | 117.9 |
| 800 | 93.0 | 93.2 | 93.5 | 94.3 | 95.9 | 98.0 | 99.6 | 103.0 | 108.0 | 116.6 | 118.5 | 113.6 | 115.3 |
| 1000 | 97.7 | 98.8 | 97.3 | 97.1 | 97.2 | 98.8 | 101.2 | 103.6 | 108.8 | 115.8 | 119.2 | 114.4 | 115.8 |
| 1250 | 95.7 | 100.3 | 98.8 | 99.3 | 100.2 | 100.8 | 102.2 | 104.3 | 108.8 | 115.6 | 114.9 | 114.9 | 116.0 |
| 1600 | 98.0 | 97.8 | 99.8 | 101.7 | 104.1 | 106.5 | 106.5 | 110.8 | 116.2 | 119.9 | 115.9 | 116.0 | 153.9 |
| 2000 | 97.2 | 99.1 | 97.5 | 97.6 | 98.2 | 100.3 | 102.0 | 104.9 | 109.7 | 114.4 | 115.5 | 114.9 | 112.6 |
| 2500 | 97.6 | 98.5 | 98.5 | 99.0 | 98.3 | 100.5 | 102.5 | 105.3 | 108.9 | 113.6 | 114.7 | 115.5 | 111.7 |
| 3150 | 100.0 | 101.1 | 99.8 | 101.1 | 100.9 | 102.3 | 102.6 | 105.4 | 109.2 | 112.1 | 114.7 | 115.9 | 150.8 |
| 4000 | 97.2 | 98.2 | 97.5 | 98.3 | 98.9 | 102.6 | 102.7 | 105.3 | 108.7 | 110.5 | 112.5 | 116.2 | 108.1 |
| 5000 | 96.4 | 98.2 | 96.8 | 97.5 | 98.7 | 100.9 | 101.8 | 104.9 | 107.9 | 109.3 | 111.1 | 116.1 | 108.0 |
| 6300 | 96.1 | 99.0 | 97.7 | 97.3 | 98.9 | 100.1 | 101.8 | 104.3 | 106.8 | 107.9 | 110.2 | 118.3 | 106.6 |
| 8000 | 94.2 | 97.3 | 96.9 | 97.3 | 99.8 | 100.1 | 101.2 | 103.4 | 105.3 | 106.9 | 108.3 | 118.1 | 105.4 |
| 10000 | 93.3 | 95.7 | 96.5 | 96.5 | 98.0 | 100.0 | 100.1 | 102.4 | 104.6 | 105.7 | 107.7 | 119.1 | 105.2 |
| 12500 | 91.1 | 94.3 | 94.8 | 95.1 | 96.6 | 98.3 | 99.3 | 100.6 | 103.4 | 103.9 | 106.5 | 119.1 | 102.9 |
| 16000 | 88.1 | 92.8 | 92.0 | 92.8 | 94.1 | 96.6 | 97.5 | 99.8 | 101.1 | 100.8 | 103.3 | 119.4 | 100.6 |
| 20000 | 85.4 | 89.1 | 89.7 | 90.0 | 91.8 | 94.6 | 95.2 | 96.0 | 98.1 | 98.2 | 100.9 | 119.0 | 97.9 |
| 25000 | 81.6 | 85.9 | 86.2 | 87.0 | 88.8 | 92.2 | 92.9 | 92.7 | 95.4 | 95.4 | 98.5 | 118.9 | 93.7 |
| 31500 | 76.9 | 81.8 | 81.8 | 82.9 | 85.4 | 88.5 | 89.6 | 89.6 | 92.6 | 92.8 | 96.2 | 116.1 | 90.6 |
| 40000 | 73.0 | 77.6 | 78.5 | 79.6 | 81.7 | 84.6 | 85.2 | 86.4 | 89.8 | 88.8 | 94.5 | 113.1 | 87.8 |
| 50000 | 68.6 | 72.8 | 73.5 | 74.8 | 77.3 | 80.5 | 81.3 | 82.6 | 86.1 | 87.0 | 93.8 | 110.4 | 82.6 |
| 63000 | 63.0 | 69.5 | 69.3 | 71.3 | 73.8 | 76.2 | 77.8 | 78.5 | 83.0 | 84.3 | 91.7 | 107.7 | 78.6 |
| 80000 | 59.4 | 66.7 | 67.1 | 66.4 | 68.9 | 71.3 | 72.4 | 73.9 | 80.8 | 80.6 | 88.5 | 104.5 | 72.7 |
| DBA | 108.3 | 109.9 | 109.2 | 109.8 | 110.5 | 112.3 | 114.0 | 116.2 | 120.2 | 125.5 | 128.0 | 127.6 | 124.8 |
| PNL | 123.1 | 123.5 | 122.7 | 123.5 | 123.9 | 126.8 | 128.3 | 129.2 | 133.0 | 137.1 | 140.5 | 141.5 | 137.6 |
| CASPL | 108.1 | 110.1 | 109.4 | 109.9 | 110.8 | 112.6 | 114.2 | 116.4 | 120.4 | 125.9 | 128.5 | 130.3 | 125.9 |

NASA SHOCK CELL/ANNULAR C-D PLUG NO2, SC-4/NAS3-22514

VEHICL = ADH035 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CCONFIG = 4 MODEL = 4 FLTVEL = 0. FPS
IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE EXT DIST = 40.0 FT TAMB F = 78.00 PAMB HG = 29.60 RELHUM = 51.5 PCT
WIND DIR = WIND WIND VEL = MPH

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2048.1 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNLR RPM XNHR = RPM V18 = 2048.1 FPS AE18 = 0. SQ IN

RUNPT = 81F-ZER-0449 TAPE = X0449C TEST PT NO = 0449 NC = 861 CORR FAN SPEED = RPM

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FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 82.4 81.7 79.5 79.3 80.1 80.7 81.1 86.3 87.2 86.3 95.7 112.6 95.5 141.8

63 84.7 85.3 86.0 85.1 86.2 88.0 87.4 89.8 92.8 90.9 99.0 108.4 98.3 138.8

80 87.0 92.3 87.8 87.4 88.0 90.8 91.7 92.3 91.9 94.5 111.2 97.6 141.0

100 87.1 92.6 87.9 90.2 91.0 91.6 92.5 93.4 93.1 95.7 96.8 106.5 101.2 138.4

125 84.4 87.9 89.2 90.4 91.3 93.2 93.3 93.2 94.2 97.2 103.4 110.3 105.5 141.7

160 83.8 83.6 86.6 86.4 87.0 88.3 90.0 90.6 93.3 98.2 102.8 106.2 107.6 140.0

200 84.8 86.1 86.6 89.0 91.3 91.2 96.8 101.4 105.5 107.5 110.1 142.4

250 85.3 89.6 89.6 89.6 92.1 94.7 96.6 100.3 106.9 111.0 109.5 112.6 145.9

315 85.6 88.9 88.6 89.2 91.5 94.4 96.0 97.7 102.9 109.2 112.3 113.4 147.2

400 88.1 89.9 90.4 90.9 91.5 94.6 97.3 100.2 107.1 114.7 116.8 112.0 150.8

500 87.5 91.2 90.8 93.9 95.8 98.4 101.3 107.5 114.8 117.5 112.9 114.3 151.3

630 89.1 92.3 92.1 93.2 95.0 96.9 99.2 102.9 107.9 116.7 119.8 114.2 153.5

800 93.0 93.2 93.5 94.3 95.9 98.0 101.2 103.6 108.8 115.8 119.2 114.4 152.9

1000 97.7 98.8 97.1 97.3 97.1 98.8 101.2 103.6 108.8 115.8 119.2 114.4 152.9

1250 95.7 100.3 98.8 99.3 100.2 100.8 102.2 104.3 108.8 115.8 119.2 114.4 152.4

1500 98.0 97.8 99.8 99.8 99.9 101.7 104.1 106.5 110.8 116.2 119.9 116.0 153.9

2000 97.2 99.1 97.6 98.2 100.3 98.2 100.3 102.5 105.3 108.9 113.6 114.7 150.8

2500 100.0 101.1 99.8 101.1 100.9 102.3 102.6 105.4 109.2 112.1 114.7 115.9 150.8

3150 97.2 98.2 97.5 98.3 98.9 100.6 102.7 105.3 108.7 110.5 112.5 108.1 149.9

4000 97.2 98.2 97.5 98.3 98.9 100.6 102.7 105.3 108.7 110.5 112.5 108.1 149.9

5000 96.1 99.0 97.7 97.7 98.9 100.1 101.8 104.3 106.8 107.9 110.2 106.6 150.3

6300 94.2 97.3 96.9 97.3 97.3 99.8 101.2 103.4 105.3 106.9 107.7 105.4 150.1

8000 94.2 97.3 96.9 97.3 97.3 99.8 101.2 103.4 105.3 106.9 107.7 105.4 150.1

10000 93.3 95.7 96.5 96.5 96.6 98.0 100.0 102.4 104.6 103.9 106.5 119.1 151.1

12500 91.1 94.3 94.8 95.1 96.6 98.3 99.3 100.6 103.4 103.9 106.5 119.1 151.5

16000 88.1 92.2 92.0 92.8 94.1 96.6 97.5 99.8 101.1 100.8 103.3 119.4 152.7

20000 85.4 89.1 89.7 90.0 91.8 94.6 95.2 96.0 98.1 98.2 100.9 97.9 153.8

25000 81.6 85.9 86.2 87.0 88.8 92.2 92.9 95.4 95.4 98.5 118.9 93.7 156.0

31500 76.9 81.8 82.9 85.4 88.5 89.1 89.6 92.6 92.6 96.2 116.1 90.6 156.3

40000 73.0 77.6 78.5 79.6 81.7 84.6 85.2 86.4 89.8 88.8 94.5 113.1 157.3

50000 68.6 74.8 73.5 74.8 77.3 80.5 81.3 82.6 86.1 83.0 84.3 91.7 161.6

60000 59.4 66.7 67.1 66.4 68.9 71.3 72.4 72.4 77.8 78.5 83.0 84.3 165.2

80000 59.4 66.7 67.1 66.4 68.9 71.3 72.4 72.4 77.8 78.5 83.0 84.3 165.2

QASPL 108.1 110.1 109.4 109.9 110.8 112.6 114.2 116.4 120.4 125.9 128.5 130.3 125.9 169.9

PWL 123.1 123.5 122.7 123.5 123.9 125.6 126.8 129.2 133.0 137.1 140.5 141.5 137.6

DBA 180.7 187.7 188.0 187.9 190.4 192.8 194.0 195.3 201.6 201.7 209.4 225.5 194.5

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH035 TEST DATE = 08-19-81
IAPLHA = SB59 IEGA = NO
WIND DIR = DEG WIND VEL = MPH
LOCAT = C41 ANECH CH CONFIG = 4
TAMB F = 78.00 PAMB HG = 29.60
RELHUM = 51.5 PCT
FLTVEL = 4
0. FPS

FNINI = LBS XNL RPM XNHR = RPM V8 = 2048.1 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNL RPM XNHR = RPM V8 = 2048.1 FPS AE8 = 25.3 SQ IN

TEST PT NO = 0449 NC = 861 CORR FAN SPEED = RPM

RUNPT = 81F-ZER-0449 TAPE = X0449F

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-0449 X04491

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

63 65.4 70.7 71.3 73.3 75.6 77.6 80.1 82.6 88.1 94.3 95.4 88.6 86.4 168.2

80 67.0 71.8 72.7 74.4 76.7 78.7 80.9 84.2 88.4 96.1 97.7 89.9 90.2 170.9

100 70.8 72.6 74.0 75.5 77.5 79.8 81.3 84.3 88.5 96.0 96.3 89.2 87.4 170.0

125 75.4 76.1 77.7 78.2 78.7 80.5 82.7 84.7 88.2 95.1 96.9 89.8 87.7 170.3

160 73.3 73.9 74.4 75.1 76.3 78.1 80.3 81.6 82.4 83.6 85.3 89.1 94.8 95.5 90.1 86.5 169.8

200 75.3 76.7 77.9 79.3 80.7 83.0 85.5 87.8 87.3 90.9 95.2 97.1 90.8 87.0 171.3

250 74.1 77.7 78.2 79.3 81.5 83.0 85.5 89.6 93.1 92.5 89.3 83.0 168.6

315 74.2 76.8 78.0 79.4 79.1 81.4 83.3 85.6 88.4 91.9 91.2 89.4 81.4 168.2

400 76.0 79.0 79.0 81.1 81.5 82.9 83.2 85.4 88.4 90.0 90.8 89.2 78.2 168.2

500 72.8 75.8 76.4 78.0 79.1 81.0 83.0 85.0 87.5 88.0 88.0 88.7 75.8 167.3

600 70.6 75.8 76.9 78.6 80.0 81.6 83.5 85.0 84.7 84.8 89.5 72.0 167.7

800 70.6 75.8 76.9 78.6 80.7 82.4 83.3 83.4 82.4 88.7 88.7 69.7 167.5

1000 68.3 73.8 74.9 76.3 76.8 79.6 80.7 82.4 83.3 83.4 88.7 69.7 167.5

1250 66.9 71.8 73.5 75.3 77.4 79.6 79.5 81.3 82.4 81.8 81.3 88.8 68.8 168.5

1500 63.8 69.8 72.1 73.6 75.7 77.7 78.4 79.1 80.7 79.5 79.2 87.5 63.4 169.0

1600 63.8 69.8 72.1 73.6 75.7 77.7 78.4 79.1 80.7 79.5 79.2 87.5 63.4 169.0

2000 59.9 67.2 68.9 71.1 73.1 75.8 76.5 78.1 78.1 75.7 75.1 86.1 58.1 170.2

2500 55.4 62.8 65.8 67.6 70.2 73.2 73.6 73.6 74.2 71.9 70.9 82.9 50.5 171.3

3150 48.2 57.2 60.4 63.0 65.9 69.6 70.0 68.7 69.6 66.7 65.2 77.8 37.8 173.4

4000 37.3 48.3 52.2 55.7 59.5 63.0 63.2 62.4 62.9 59.3 56.6 66.1 20.3 173.7

5000 23.6 36.6 42.6 46.9 50.8 54.2 54.3 53.7 53.9 47.7 45.1 49.4 174.7

6300 1.4 17.5 25.5 31.4 36.3 40.3 40.3 39.1 38.2 31.8 22.6 179.0

8000 0.0 8.6 14.7 18.2 18.7 15.8 13.7 4.2

10000 182.7

12500

15000

20000

25000

31500

40000

50000

63000

80000

QASPL 84.3 87.8 88.5 89.8 91.1 93.1 94.7 96.4 99.9 104.7 105.6 101.4 96.6 187.3

PNL 89.2 93.3 94.2 96.0 97.3 99.6 100.8 102.1 104.7 107.3 108.1 108.5 97.0

PNL 89.8 93.3 94.2 96.0 97.3 100.2 101.5 102.1 104.7 108.0 108.6 109.7 97.0

DBA 78.6 82.8 83.6 85.2 86.6 88.7 89.7 91.4 93.4 94.7 94.9 97.4 83.8

MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH035 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4

FLVLA = 5B59 DEG WIND VEL = MPH PWL AREA = FULL SPHERE EXT DIST = 2400.0 FT EXT CNFIG = SL

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2048.1 FPS AE8 = 25.3 SQ IN

FNAMB = LBS XNLR = RPM V18 = 861 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

DATPRC - FLTKAN

IDENTIFICATION - MODEL 81F-ZER-0451 X0451C
BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|---|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 83.2 | 82.7 | 79.2 | 80.3 | 88.4 | 82.2 | 82.1 | 83.5 | 87.7 | 87.3 | 93.2 | 90.6 | 91.3 |
| 63 | 85.2 | 85.5 | 86.0 | 87.9 | 87.9 | 89.0 | 87.9 | 86.6 | 92.8 | 90.4 | 94.2 | 92.7 | 95.3 |
| 80 | 88.0 | 93.3 | 88.6 | 88.1 | 88.6 | 92.1 | 92.5 | 93.3 | 92.4 | 95.8 | 97.0 | 98.6 | 134.8 |
| 100 | 87.6 | 93.6 | 88.6 | 90.4 | 90.5 | 92.4 | 93.2 | 94.3 | 93.7 | 95.2 | 98.0 | 100.5 | 101.7 |
| 125 | 84.6 | 88.4 | 88.9 | 90.7 | 91.0 | 94.2 | 94.3 | 93.7 | 95.2 | 98.0 | 103.9 | 105.0 | 106.2 |
| 160 | 84.3 | 86.8 | 86.8 | 88.5 | 88.5 | 92.1 | 92.5 | 94.9 | 99.6 | 102.4 | 106.0 | 109.2 | 110.9 |
| 200 | 85.8 | 85.1 | 86.8 | 87.4 | 89.5 | 92.1 | 92.5 | 94.9 | 99.6 | 102.4 | 106.0 | 109.2 | 110.9 |
| 250 | 85.3 | 89.1 | 89.1 | 90.1 | 90.2 | 92.1 | 94.7 | 97.1 | 101.6 | 107.9 | 112.0 | 113.0 | 113.1 |
| 315 | 86.1 | 89.1 | 88.4 | 89.4 | 90.3 | 94.4 | 96.0 | 98.2 | 103.6 | 110.5 | 112.8 | 113.5 | 113.9 |
| 400 | 88.8 | 90.6 | 91.4 | 91.3 | 95.1 | 97.5 | 101.7 | 108.9 | 116.0 | 117.3 | 116.8 | 114.4 | 152.3 |
| 500 | 87.7 | 91.5 | 91.0 | 92.0 | 93.6 | 96.3 | 98.6 | 102.0 | 109.0 | 116.1 | 118.2 | 116.6 | 114.5 |
| 630 | 89.6 | 92.6 | 92.6 | 93.2 | 94.2 | 97.4 | 100.0 | 103.7 | 109.1 | 117.9 | 120.3 | 118.0 | 116.7 |
| 800 | 93.5 | 93.7 | 94.0 | 96.9 | 98.5 | 100.1 | 103.5 | 109.0 | 118.1 | 119.5 | 117.6 | 115.0 | 154.0 |
| 1000 | 99.2 | 100.0 | 97.5 | 97.3 | 96.9 | 99.3 | 101.9 | 104.1 | 109.8 | 117.6 | 120.0 | 117.4 | 154.1 |
| 1250 | 96.0 | 101.8 | 100.0 | 100.3 | 99.4 | 101.0 | 102.4 | 104.6 | 109.8 | 116.6 | 119.7 | 117.4 | 153.8 |
| 1600 | 98.3 | 99.3 | 99.3 | 97.4 | 97.5 | 99.5 | 101.1 | 102.7 | 105.1 | 110.7 | 116.2 | 117.8 | 154.3 |
| 2000 | 97.4 | 99.1 | 97.5 | 97.4 | 97.4 | 99.5 | 101.1 | 102.7 | 105.1 | 110.7 | 116.2 | 117.8 | 154.3 |
| 2500 | 96.6 | 98.9 | 97.7 | 99.0 | 99.3 | 101.2 | 103.3 | 105.5 | 109.9 | 115.3 | 116.4 | 113.2 | 110.5 |
| 3150 | 98.7 | 100.1 | 98.1 | 99.6 | 99.2 | 102.3 | 103.1 | 105.6 | 109.7 | 111.7 | 113.5 | 111.7 | 108.9 |
| 4000 | 97.5 | 98.5 | 97.3 | 98.0 | 99.1 | 101.1 | 102.7 | 106.0 | 109.7 | 111.7 | 113.5 | 111.7 | 108.9 |
| 5000 | 96.7 | 98.2 | 96.8 | 97.5 | 102.0 | 100.4 | 102.3 | 105.6 | 108.6 | 111.6 | 112.6 | 110.1 | 107.7 |
| 6300 | 95.8 | 99.0 | 97.5 | 97.7 | 99.9 | 101.1 | 102.8 | 105.3 | 107.6 | 110.4 | 111.7 | 110.3 | 107.4 |
| 8000 | 93.9 | 97.3 | 96.9 | 97.3 | 99.3 | 100.6 | 102.4 | 104.0 | 106.8 | 109.4 | 110.0 | 108.6 | 105.9 |
| 10000 | 92.8 | 96.2 | 96.5 | 97.3 | 99.5 | 100.7 | 101.3 | 104.0 | 106.8 | 109.7 | 107.6 | 105.2 | 147.6 |
| 12500 | 91.1 | 94.5 | 94.8 | 95.6 | 99.1 | 99.8 | 100.0 | 102.1 | 104.7 | 105.9 | 107.7 | 105.1 | 102.2 |
| 16000 | 88.1 | 92.7 | 93.3 | 96.6 | 97.4 | 98.5 | 101.0 | 103.8 | 104.8 | 102.7 | 100.1 | 145.8 | |
| 20000 | 85.9 | 89.6 | 91.3 | 94.5 | 95.6 | 96.7 | 97.8 | 99.9 | 100.7 | 103.2 | 100.5 | 97.7 | 145.1 |
| 25000 | 81.8 | 87.2 | 86.7 | 87.5 | 93.3 | 93.7 | 94.4 | 93.9 | 96.4 | 97.9 | 100.3 | 98.9 | 144.8 |
| 31500 | 76.9 | 83.0 | 82.5 | 83.9 | 89.8 | 89.4 | 90.6 | 91.8 | 94.3 | 95.0 | 98.7 | 94.8 | 145.1 |
| 40000 | 73.1 | 78.2 | 79.1 | 79.7 | 88.3 | 85.7 | 87.1 | 88.2 | 92.1 | 91.1 | 97.1 | 92.2 | 146.6 |
| 50000 | 68.6 | 73.9 | 74.1 | 75.8 | 88.2 | 82.2 | 83.3 | 83.8 | 88.8 | 90.4 | 94.8 | 89.4 | 148.6 |
| 63000 | 62.8 | 69.6 | 70.0 | 72.6 | 89.1 | 78.0 | 79.3 | 80.2 | 85.9 | 88.7 | 94.9 | 86.5 | 152.9 |
| 80000 | 58.6 | 66.3 | 66.4 | 67.8 | 88.6 | 73.0 | 74.4 | 75.1 | 82.9 | 83.3 | 90.4 | 83.0 | 156.4 |
| OASPL | 108.2 | 110.4 | 109.3 | 110.0 | 111.5 | 113.0 | 114.7 | 117.1 | 121.4 | 127.4 | 129.5 | 127.4 | 125.5 |
| PWL | 121.5 | 123.3 | 122.0 | 122.9 | 124.2 | 125.8 | 127.2 | 129.8 | 133.9 | 138.7 | 140.6 | 138.2 | 136.0 |
| PNT | 123.0 | 125.0 | 122.0 | 122.9 | 124.2 | 126.4 | 128.3 | 129.8 | 133.9 | 138.7 | 141.1 | 138.2 | 136.0 |
| DBA | 108.3 | 110.2 | 109.1 | 109.7 | 110.7 | 112.4 | 114.3 | 116.7 | 121.1 | 127.0 | 129.1 | 126.6 | 124.2 |
| NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514 | | | | | | | | | | | | | |
| VEHICL | ADH034 | | | | | | | | | | | | |
| IAPLHA | SB59 | | | | | | | | | | | | |
| WIND DIR | DEG | | | | | | | | | | | | |
| WIND VEL | MPH | | | | | | | | | | | | |
| TEST DATE | 08-19-81 | | | | | | | | | | | | |
| LOCAT | = C41 ANECH CH | | | | | | | | | | | | |
| PWL AREA | = FULL SPHERE | | | | | | | | | | | | |
| EXT DIST | = 40.0 FT | | | | | | | | | | | | |
| EXT CNFIG | = ARC | | | | | | | | | | | | |
| MODEL | = 4 | | | | | | | | | | | | |
| PAMB HG | = 29.70 | | | | | | | | | | | | |
| RELHUM | = 55.0 PCT | | | | | | | | | | | | |
| FLTVEL | = 0. FPS | | | | | | | | | | | | |
| FINI | LBS XNL | | | | | | | | | | | | |
| FNRAMB | LBS XNL | | | | | | | | | | | | |
| RUNPT | 81F-ZER-0451 TAPE | | | | | | | | | | | | |
| TEST PT NO | = 0451 | | | | | | | | | | | | |
| NC | = 861 | | | | | | | | | | | | |
| CORR FAN SPEED | = RPM | | | | | | | | | | | | |

ORIGINAL PAGE 13
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - B1F-ZER-0451 X0451F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 50 | 63 | 80 | 100 | 125 | 160 | 200 | 250 | 315 | 400 | 500 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 2500 | 3150 | 4000 | 5000 | 6300 | 8000 | 10000 | 12500 | 16000 | 20000 | 25000 | 31500 | 40000 | 50000 | 63000 | 80000 | DBA | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 63.2 | 65.2 | 68.0 | 70.4 | 72.8 | 75.2 | 77.6 | 80.0 | 82.4 | 84.8 | 87.2 | 89.6 | 92.0 | 94.4 | 96.8 | 99.2 | 101.6 | 104.0 | 106.4 | 108.8 | 111.2 | 113.6 | 116.0 | 118.4 | 120.8 | 123.2 | 125.6 | 128.0 | 130.4 | 132.8 | 135.2 | 137.6 | 140.0 | 142.4 | 144.8 | | | | | | |
| | 62.7 | 64.7 | 67.2 | 69.7 | 72.2 | 74.7 | 77.2 | 79.7 | 82.2 | 84.7 | 87.2 | 89.7 | 92.2 | 94.7 | 97.2 | 99.7 | 102.2 | 104.7 | 107.2 | 109.7 | 112.2 | 114.7 | 117.2 | 119.7 | 122.2 | 124.7 | 127.2 | 129.7 | 132.2 | 134.7 | 137.2 | 139.7 | 142.2 | 144.7 | 147.2 | | | | | | |
| | 62.2 | 64.2 | 66.7 | 69.2 | 71.7 | 74.2 | 76.7 | 79.2 | 81.7 | 84.2 | 86.7 | 89.2 | 91.7 | 94.2 | 96.7 | 99.2 | 101.7 | 104.2 | 106.7 | 109.2 | 111.7 | 114.2 | 116.7 | 119.2 | 121.7 | 124.2 | 126.7 | 129.2 | 131.7 | 134.2 | 136.7 | 139.2 | 141.7 | 144.2 | 146.7 | | | | | | |
| | 61.7 | 63.7 | 66.2 | 68.7 | 71.2 | 73.7 | 76.2 | 78.7 | 81.2 | 83.7 | 86.2 | 88.7 | 91.2 | 93.7 | 96.2 | 98.7 | 101.2 | 103.7 | 106.2 | 108.7 | 111.2 | 113.7 | 116.2 | 118.7 | 121.2 | 123.7 | 126.2 | 128.7 | 131.2 | 133.7 | 136.2 | 138.7 | 141.2 | 143.7 | 146.2 | | | | | | |
| | 61.2 | 63.2 | 65.7 | 68.2 | 70.7 | 73.2 | 75.7 | 78.2 | 80.7 | 83.2 | 85.7 | 88.2 | 90.7 | 93.2 | 95.7 | 98.2 | 100.7 | 103.2 | 105.7 | 108.2 | 110.7 | 113.2 | 115.7 | 118.2 | 120.7 | 123.2 | 125.7 | 128.2 | 130.7 | 133.2 | 135.7 | 138.2 | 140.7 | 143.2 | 145.7 | | | | | | |
| | 60.7 | 62.7 | 65.2 | 67.7 | 70.2 | 72.7 | 75.2 | 77.7 | 80.2 | 82.7 | 85.2 | 87.7 | 90.2 | 92.7 | 95.2 | 97.7 | 100.2 | 102.7 | 105.2 | 107.7 | 110.2 | 112.7 | 115.2 | 117.7 | 120.2 | 122.7 | 125.2 | 127.7 | 130.2 | 132.7 | 135.2 | 137.7 | 140.2 | 142.7 | 145.2 | | | | | | |
| | 60.2 | 62.2 | 64.7 | 67.2 | 69.7 | 72.2 | 74.7 | 77.2 | 79.7 | 82.2 | 84.7 | 87.2 | 89.7 | 92.2 | 94.7 | 97.2 | 99.7 | 102.2 | 104.7 | 107.2 | 109.7 | 112.2 | 114.7 | 117.2 | 119.7 | 122.2 | 124.7 | 127.2 | 129.7 | 132.2 | 134.7 | 137.2 | 139.7 | 142.2 | 144.7 | 147.2 | | | | | |
| | 59.7 | 61.7 | 64.2 | 66.7 | 69.2 | 71.7 | 74.2 | 76.7 | 79.2 | 81.7 | 84.2 | 86.7 | 89.2 | 91.7 | 94.2 | 96.7 | 99.2 | 101.7 | 104.2 | 106.7 | 109.2 | 111.7 | 114.2 | 116.7 | 119.2 | 121.7 | 124.2 | 126.7 | 129.2 | 131.7 | 134.2 | 136.7 | 139.2 | 141.7 | 144.2 | 146.7 | | | | | |
| | 59.2 | 61.2 | 63.7 | 66.2 | 68.7 | 71.2 | 73.7 | 76.2 | 78.7 | 81.2 | 83.7 | 86.2 | 88.7 | 91.2 | 93.7 | 96.2 | 98.7 | 101.2 | 103.7 | 106.2 | 108.7 | 111.2 | 113.7 | 116.2 | 118.7 | 121.2 | 123.7 | 126.2 | 128.7 | 131.2 | 133.7 | 136.2 | 138.7 | 141.2 | 143.7 | 146.2 | | | | | |
| | 58.7 | 60.7 | 63.2 | 65.7 | 68.2 | 70.7 | 73.2 | 75.7 | 78.2 | 80.7 | 83.2 | 85.7 | 88.2 | 90.7 | 93.2 | 95.7 | 98.2 | 100.7 | 103.2 | 105.7 | 108.2 | 110.7 | 113.2 | 115.7 | 118.2 | 120.7 | 123.2 | 125.7 | 128.2 | 130.7 | 133.2 | 135.7 | 138.2 | 140.7 | 143.2 | 145.7 | | | | | |
| | 58.2 | 60.2 | 62.7 | 65.2 | 67.7 | 70.2 | 72.7 | 75.2 | 77.7 | 80.2 | 82.7 | 85.2 | 87.7 | 90.2 | 92.7 | 95.2 | 97.7 | 100.2 | 102.7 | 105.2 | 107.7 | 110.2 | 112.7 | 115.2 | 117.7 | 120.2 | 122.7 | 125.2 | 127.7 | 130.2 | 132.7 | 135.2 | 137.7 | 140.2 | 142.7 | 145.2 | | | | | |
| | 57.7 | 59.7 | 62.2 | 64.7 | 67.2 | 69.7 | 72.2 | 74.7 | 77.2 | 79.7 | 82.2 | 84.7 | 87.2 | 89.7 | 92.2 | 94.7 | 97.2 | 99.7 | 102.2 | 104.7 | 107.2 | 109.7 | 112.2 | 114.7 | 117.2 | 119.7 | 122.2 | 124.7 | 127.2 | 129.7 | 132.2 | 134.7 | 137.2 | 139.7 | 142.2 | 144.7 | 147.2 | | | | |
| | 57.2 | 59.2 | 61.7 | 64.2 | 66.7 | 69.2 | 71.7 | 74.2 | 76.7 | 79.2 | 81.7 | 84.2 | 86.7 | 89.2 | 91.7 | 94.2 | 96.7 | 99.2 | 101.7 | 104.2 | 106.7 | 109.2 | 111.7 | 114.2 | 116.7 | 119.2 | 121.7 | 124.2 | 126.7 | 129.2 | 131.7 | 134.2 | 136.7 | 139.2 | 141.7 | 144.2 | 146.7 | | | | |
| | 56.7 | 58.7 | 61.2 | 63.7 | 66.2 | 68.7 | 71.2 | 73.7 | 76.2 | 78.7 | 81.2 | 83.7 | 86.2 | 88.7 | 91.2 | 93.7 | 96.2 | 98.7 | 101.2 | 103.7 | 106.2 | 108.7 | 111.2 | 113.7 | 116.2 | 118.7 | 121.2 | 123.7 | 126.2 | 128.7 | 131.2 | 133.7 | 136.2 | 138.7 | 141.2 | 143.7 | 146.2 | | | | |
| | 56.2 | 58.2 | 60.7 | 63.2 | 65.7 | 68.2 | 70.7 | 73.2 | 75.7 | 78.2 | 80.7 | 83.2 | 85.7 | 88.2 | 90.7 | 93.2 | 95.7 | 98.2 | 100.7 | 103.2 | 105.7 | 108.2 | 110.7 | 113.2 | 115.7 | 118.2 | 120.7 | 123.2 | 125.7 | 128.2 | 130.7 | 133.2 | 135.7 | 138.2 | 140.7 | 143.2 | 145.7 | | | | |
| | 55.7 | 57.7 | 60.2 | 62.7 | 65.2 | 67.7 | 70.2 | 72.7 | 75.2 | 77.7 | 80.2 | 82.7 | 85.2 | 87.7 | 90.2 | 92.7 | 95.2 | 97.7 | 100.2 | 102.7 | 105.2 | 107.7 | 110.2 | 112.7 | 115.2 | 117.7 | 120.2 | 122.7 | 125.2 | 127.7 | 130.2 | 132.7 | 135.2 | 137.7 | 140.2 | 142.7 | 145.2 | | | | |
| | 55.2 | 57.2 | 59.7 | 62.2 | 64.7 | 67.2 | 69.7 | 72.2 | 74.7 | 77.2 | 79.7 | 82.2 | 84.7 | 87.2 | 89.7 | 92.2 | 94.7 | 97.2 | 99.7 | 102.2 | 104.7 | 107.2 | 109.7 | 112.2 | 114.7 | 117.2 | 119.7 | 122.2 | 124.7 | 127.2 | 129.7 | 132.2 | 134.7 | 137.2 | 139.7 | 142.2 | 144.7 | 147.2 | | | |
| | 54.7 | 56.7 | 59.2 | 61.7 | 64.2 | 66.7 | 69.2 | 71.7 | 74.2 | 76.7 | 79.2 | 81.7 | 84.2 | 86.7 | 89.2 | 91.7 | 94.2 | 96.7 | 99.2 | 101.7 | 104.2 | 106.7 | 109.2 | 111.7 | 114.2 | 116.7 | 119.2 | 121.7 | 124.2 | 126.7 | 129.2 | 131.7 | 134.2 | 136.7 | 139.2 | 141.7 | 144.2 | 146.7 | | | |
| | 54.2 | 56.2 | 58.7 | 61.2 | 63.7 | 66.2 | 68.7 | 71.2 | 73.7 | 76.2 | 78.7 | 81.2 | 83.7 | 86.2 | 88.7 | 91.2 | 93.7 | 96.2 | 98.7 | 101.2 | 103.7 | 106.2 | 108.7 | 111.2 | 113.7 | 116.2 | 118.7 | 121.2 | 123.7 | 126.2 | 128.7 | 131.2 | 133.7 | 136.2 | 138.7 | 141.2 | 143.7 | 146.2 | | | |
| | 53.7 | 55.7 | 58.2 | 60.7 | 63.2 | 65.7 | 68.2 | 70.7 | 73.2 | 75.7 | 78.2 | 80.7 | 83.2 | 85.7 | 88.2 | 90.7 | 93.2 | 95.7 | 98.2 | 100.7 | 103.2 | 105.7 | 108.2 | 110.7 | 113.2 | 115.7 | 118.2 | 120.7 | 123.2 | 125.7 | 128.2 | 130.7 | 133.2 | 135.7 | 138.2 | 140.7 | 143.2 | 145.7 | | | |
| | 53.2 | 55.2 | 57.7 | 60.2 | 62.7 | 65.2 | 67.7 | 70.2 | 72.7 | 75.2 | 77.7 | 80.2 | 82.7 | 85.2 | 87.7 | 90.2 | 92.7 | 95.2 | 97.7 | 100.2 | 102.7 | 105.2 | 107.7 | 110.2 | 112.7 | 115.2 | 117.7 | 120.2 | 122.7 | 125.2 | 127.7 | 130.2 | 132.7 | 135.2 | 137.7 | 140.2 | 142.7 | 145.2 | | | |
| | 52.7 | 54.7 | 57.2 | 59.7 | 62.2 | 64.7 | 67.2 | 69.7 | 72.2 | 74.7 | 77.2 | 79.7 | 82.2 | 84.7 | 87.2 | 89.7 | 92.2 | 94.7 | 97.2 | 99.7 | 102.2 | 104.7 | 107.2 | 109.7 | 112.2 | 114.7 | 117.2 | 119.7 | 122.2 | 124.7 | 127.2 | 129.7 | 132.2 | 134.7 | 137.2 | 139.7 | 142.2 | 144.7 | 147.2 | | |
| | 52.2 | 54.2 | 56.7 | 59.2 | 61.7 | 64.2 | 66.7 | 69.2 | 71.7 | 74.2 | 76.7 | 79.2 | 81.7 | 84.2 | 86.7 | 89.2 | 91.7 | 94.2 | 96.7 | 99.2 | 101.7 | 104.2 | 106.7 | 109.2 | 111.7 | 114.2 | 116.7 | 119.2 | 121.7 | 124.2 | 126.7 | 129.2 | 131.7 | 134.2 | 136.7 | 139.2 | 141.7 | 144.2 | 146.7 | | |
| | 51.7 | 53.7 | 56.2 | 58.7 | 61.2 | 63.7 | 66.2 | 68.7 | 71.2 | 73.7 | 76.2 | 78.7 | 81.2 | 83.7 | 86.2 | 88.7 | 91.2 | 93.7 | 96.2 | 98.7 | 101.2 | 103.7 | 106.2 | 108.7 | 111.2 | 113.7 | 116.2 | 118.7 | 121.2 | 123.7 | 126.2 | 128.7 | 131.2 | 133.7 | 136.2 | 138.7 | 141.2 | 143.7 | 146.2 | | |
| | 51.2 | 53.2 | 55.7 | 58.2 | 60.7 | 63.2 | 65.7 | 68.2 | 70.7 | 73.2 | 75.7 | 78.2 | 80.7 | 83.2 | 85.7 | 88.2 | 90.7 | 93.2 | 95.7 | 98.2 | 100.7 | 103.2 | 105.7 | 108.2 | 110.7 | 113.2 | 115.7 | 118.2 | 120.7 | 123.2 | 125.7 | 128.2 | 130.7 | 133.2 | 135.7 | 138.2 | 140.7 | 143.2 | 145.7 | | |
| | 50.7 | 52.7 | 55.2 | 57.7 | 60.2 | 62.7 | 65.2 | 67.7 | 70.2 | 72.7 | 75.2 | 77.7 | 80.2 | 82.7 | 85.2 | 87.7 | 90.2 | 92.7 | 95.2 | 97.7 | 100.2 | 102.7 | 105.2 | 107.7 | 110.2 | 112.7 | 115.2 | 117.7 | 120.2 | 122.7 | 125.2 | 127.7 | 130.2 | 132.7 | 135.2 | 137.7 | 140.2 | 142.7 | 145.2 | | |
| | 50.2 | 52.2 | 54.7 | 57.2 | 59.7 | 62.2 | 64.7 | 67.2 | 69.7 | 72.2 | 74.7 | 77.2 | 79.7 | 82.2 | 84.7 | 87.2 | 89.7 | 92.2 | 94.7 | 97.2 | 99.7 | 102.2 | 104.7 | 107.2 | 109.7 | 112.2 | 114.7 | 117.2 | 119.7 | 122.2 | 124.7 | 127.2 | 129.7 | 132.2 | 134.7 | 137.2 | 139.7 | 142.2 | 144.7 | 147.2 | |
| | 49.7 | 51.7 | 54.2 | 56.7 | 59.2 | 61.7 | 64.2 | 66.7 | 69.2 | 71.7 | 74.2 | 76.7 | 79.2 | 81.7 | 84.2 | 86.7 | 89.2 | 91.7 | 94.2 | 96.7 | 99.2 | 101.7 | 104.2 | 106.7 | 109.2 | 111.7 | 114.2 | 116.7 | 119.2 | 121.7 | 124.2 | 126.7 | 129.2 | 131.7 | 134.2 | 136.7 | 139.2 | 141.7 | 144.2 | 146.7 | |
| | 49.2 | 51.2 | 53.7 | 56.2 | 58.7 | 61.2 | 63.7 | 66.2 | 68.7 | 71.2 | 73.7 | 76.2 | 78.7 | 81.2 | 83.7 | 86.2 | 88.7 | 91.2 | 93.7 | 96.2 | 98.7 | 101.2 | 103.7 | 106.2 | 108.7 | 111.2 | 113.7 | 116.2 | 118.7 | 121.2 | 123.7 | 126.2 | 128.7 | 131.2 | 133.7 | 136.2 | 138.7 | 141.2 | 143.7 | 146.2 | |
| | 48.7 | 50.7 | 53.2 | 55.7 | 58.2 | 60.7 | 63.2 | 65.7 | 68.2 | 70.7 | 73.2 | 75.7 | 78.2 | 80.7 | 83.2 | 85.7 | 88.2 | 90.7 | 93.2 | 95.7 | 98.2 | 100.7 | 103.2 | 105.7 | 108.2 | 110.7 | 113.2 | 115.7 | 118.2 | 120.7 | 123.2 | 125.7 | 128.2 | 130.7 | 133.2 | 135.7 | 138.2 | 140.7 | 143.2 | 145.7 | |
| | 48.2 | 50.2 | 52.7 | 55.2 | 57.7 | 60.2 | 62.7 | 65.2 | 67.7 | 70.2 | 72.7 | 75.2 | 77.7 | 80.2 | 82.7 | 85.2 | 87.7 | 90.2 | 92.7 | 95.2 | 97.7 | 100.2 | 102.7 | 105.2 | 107.7 | 110.2 | 112.7 | 115.2 | 117.7 | 120.2 | 122.7 | 125.2 | 127.7 | 130.2 | 132.7 | 135.2 | 137.7 | 140.2 | 142.7 | 145.2 | |
| | 47.7 | 49.7 | 52.2 | 54.7 | 57.2 | 59.7 | 62.2 | 64.7 | 67.2 | 69.7 | 72.2 | 74.7 | 77.2 | 79.7 | 82.2 | 84.7 | 87.2 | 89.7 | 92.2 | 94.7 | 97.2 | 99.7 | 102.2 | 104.7 | 107.2 | 109.7 | 112.2 | 114.7 | 117.2 | 119.7 | 122.2 | 124.7 | 127.2 | 129.7 | 132.2 | 134.7 | 137.2 | 139.7 | 142.2 | 144.7 | 147.2 |
| | 47.2 | 49.2 | 51.7 | 54.2 | 56.7 | 59.2 | 61.7 | 64.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-0451 X04511

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 66.8 70.1 71.2 72.7 73.0 77.0 79.2 83.0 89.5 95.5 95.3 92.6 86.9 169.7
63 65.7 71.0 71.6 73.3 75.3 78.1 80.3 83.3 89.6 95.6 92.4 86.9 170.1
80 67.5 72.1 73.2 74.4 75.9 79.2 81.7 84.9 89.7 97.4 98.2 93.7 88.9 171.9
100 71.3 73.1 74.5 75.5 77.6 80.3 81.8 84.8 89.5 97.5 97.3 93.2 87.2 171.4
125 76.9 79.3 77.9 78.4 81.0 83.4 85.2 90.2 96.9 97.7 92.8 87.0 171.5
160 73.5 80.9 80.3 81.3 80.8 82.6 83.8 85.6 90.1 95.8 97.3 92.6 86.2 171.2
200 75.5 77.2 79.4 80.7 81.7 84.2 87.1 87.5 91.4 96.4 97.6 91.5 85.3 171.3
250 74.4 77.7 77.3 78.0 80.5 82.3 83.8 85.7 90.6 94.8 94.7 89.3 82.0 169.9
315 73.2 77.3 77.3 79.3 80.1 82.2 84.1 85.8 89.4 93.6 92.9 87.1 80.1 168.9
400 74.8 77.3 79.6 79.7 82.9 83.6 85.6 89.1 91.5 92.0 85.4 77.9 168.2
500 73.0 76.0 77.8 79.3 81.5 82.9 85.8 88.5 89.2 89.0 84.2 76.5 166.9
630 71.7 75.4 77.0 81.9 80.5 82.3 85.1 87.1 88.7 87.6 82.0 74.3 166.4
800 70.4 75.8 76.9 79.6 81.0 82.5 84.5 85.8 87.2 86.3 81.5 72.8 166.0
1000 68.1 73.8 74.9 76.3 77.8 80.3 82.0 83.4 84.6 85.9 84.2 79.2 165.2
1250 66.4 72.3 74.3 76.1 78.9 80.4 80.8 82.8 83.6 84.1 83.3 77.3 68.1 165.0
1600 63.8 70.1 72.2 74.1 78.2 79.2 80.6 82.0 81.5 73.5 62.6 64.0
2000 59.9 67.7 69.7 71.6 75.6 76.6 77.5 79.3 78.7 76.6 69.4 57.6 163.2
2500 55.9 63.3 66.3 68.9 73.0 74.2 75.1 75.4 76.0 74.4 73.1 64.4 50.2 162.6
3150 48.4 58.5 60.9 63.5 67.4 71.1 71.5 69.9 70.6 69.2 66.9 57.8 37.1 162.2
4000 37.3 49.5 52.9 56.6 63.9 64.7 64.6 64.6 64.6 61.5 59.1 44.8 18.2 162.5
5000 23.7 37.2 47.0 57.4 63.9 64.7 64.6 64.6 64.6 50.1 47.7 28.5 1.6 166.0
6300 1.4 18.7 26.2 32.3 47.2 42.0 42.3 40.3 40.9 35.2 27.6 1.6 170.4 173.8

COG

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DBA 78.4 82.9 83.5 85.2 88.0 89.3 90.5 92.3 94.4 96.5 96.3 90.7 83.3
PNLT 89.5 94.1 93.9 95.8 99.6 100.4 102.0 103.1 105.7 109.6 104.6 96.1
PWL 88.8 93.3 93.9 95.8 99.1 100.4 101.4 103.1 105.7 108.9 109.1 103.4 96.1
CASPL 84.4 88.3 88.4 89.8 91.5 93.4 95.1 97.0 100.9 106.1 106.6 101.9 96.0 182.7

MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH034 TEST DATE = 08-19-81
IAPLHA = SB59 LEGA = NG
WIND DIR = DEG WIND VEL = MPH
EXT AREA = FULL SPHERE
EXT DIST = 2400.0 FT
EXT CONFIG = SL
TAMB F = 75.00
PAMB HG = 29.70
MODEL = 4
FLTVL = 0. FPS
RELHUM = 55.0 PCT
NBFR =

FNIN1 = LBS XNLR = RPM XNHR = RPM V8 = 2155.0 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2155.0 FPS AE18 = 0. SQ IN

RUNPT = 81F-ZER-0451 TAPE = X04511
TEST PT NO = 0451 NC = 861 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-0452 X0452C
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 85.2 84.0 80.7 80.3 80.6 82.0 82.1 86.3 87.5 87.3 96.2 91.4 97.3 130.7

63 86.5 86.3 85.1 86.9 88.5 87.2 89.8 92.3 90.4 98.7 92.4 98.3 133.5

80 88.5 88.6 88.6 88.9 89.5 92.3 93.0 92.1 93.8 92.7 95.0 96.7 100.4 135.2

100 88.1 92.8 88.4 90.2 90.7 91.9 92.7 93.7 92.6 94.2 97.1 100.3 102.4 136.5

125 85.4 88.9 89.2 90.2 91.0 93.4 93.5 92.7 93.4 96.5 102.4 104.0 106.0 139.1

160 83.8 82.6 86.1 85.9 86.5 87.6 88.5 88.9 91.8 91.8 97.2 102.3 105.0 107.4 139.3

200 83.8 83.3 84.8 84.6 86.5 86.3 89.0 90.0 92.6 97.1 99.7 104.3 108.0 109.6 141.8

250 83.0 86.3 85.6 87.1 88.2 89.6 92.0 94.1 97.6 104.9 109.0 111.2 110.6 144.8

315 83.3 86.4 86.1 86.9 88.3 91.6 93.3 95.2 99.4 107.0 110.3 112.5 109.4 145.8

400 86.1 87.9 87.6 88.7 89.5 93.1 95.8 98.8 98.9 105.4 113.0 115.1 114.3 149.5

500 85.5 88.2 88.5 89.8 91.4 94.3 96.1 99.8 105.0 112.6 115.5 113.4 104.5 149.2

630 87.1 90.1 89.1 89.9 92.0 94.4 97.7 100.9 105.9 114.9 118.1 113.5 102.4 151.1

800 89.2 89.2 89.8 91.3 93.1 95.5 97.6 100.3 105.5 114.6 118.0 110.6 99.3 150.7

1000 92.2 93.0 92.0 93.3 93.9 95.8 98.4 100.8 105.8 114.1 118.0 109.7 99.6 150.5

1250 91.0 95.8 94.0 94.3 95.9 97.3 98.9 101.8 106.5 113.1 117.2 108.4 99.4 149.9

1600 92.5 92.8 94.3 94.9 95.7 98.1 100.8 102.5 107.1 112.7 116.4 107.1 98.6 148.6

2000 91.7 92.8 92.2 93.1 94.7 97.3 99.2 102.9 107.7 112.7 116.4 107.1 98.6 148.6

2500 91.4 92.5 92.5 93.5 95.1 97.2 99.8 102.5 106.9 111.8 112.7 105.2 98.0 147.3

3150 92.3 92.3 92.9 94.4 96.6 97.8 99.6 102.4 106.4 110.1 112.0 103.9 96.8 146.5

4000 92.2 92.7 92.8 93.5 94.6 97.3 99.5 102.5 106.4 109.0 109.5 103.2 96.1 145.4

5000 91.9 93.2 92.5 93.0 94.5 96.7 98.6 102.4 105.6 108.3 108.8 101.6 95.2 144.9

6300 91.1 93.3 93.2 93.7 94.6 97.1 98.8 101.6 104.8 106.7 106.7 101.3 95.1 144.0

8000 88.9 90.8 91.6 92.3 93.5 96.6 97.9 100.1 103.3 105.9 105.5 99.6 94.0 142.6

10000 89.3 90.2 90.2 91.7 93.5 96.2 96.8 99.4 101.8 104.0 104.7 99.6 94.0 142.6

12500 87.8 89.0 89.3 90.1 92.1 94.3 95.0 97.3 101.2 101.9 102.5 98.4 92.4 141.7

16000 84.8 86.7 87.5 89.6 90.1 93.2 96.8 98.4 99.8 99.8 99.8 95.9 90.6 140.8

20000 82.9 84.4 84.7 85.5 87.3 90.1 91.2 93.8 95.6 96.5 97.2 93.0 88.4 139.8

25000 77.6 80.7 81.4 82.0 84.1 87.4 88.4 89.4 91.9 93.2 93.8 90.9 83.4 138.8

31500 73.7 77.0 77.1 77.9 80.1 83.2 84.4 85.9 88.3 89.0 90.2 85.8 78.3 138.0

40000 68.5 71.8 73.2 73.8 76.5 79.6 80.2 81.6 84.5 84.0 87.8 81.6 73.8 138.3

50000 64.6 67.8 68.2 69.1 71.5 75.5 76.1 76.6 79.9 79.5 82.1 76.9 67.8 137.7

63000 60.3 63.2 64.5 66.8 68.1 70.2 71.3 71.2 75.7 74.8 79.2 71.5 61.6 139.0

80000 57.9 63.7 64.8 65.4 68.2 70.2 71.3 71.2 75.7 74.8 79.2 71.5 61.6 139.0

DBA 102.8 104.3 104.0 104.7 106.1 108.5 110.6 113.4 117.7 123.4 126.2 119.8 112.3

PWL 116.3 117.3 117.3 118.1 119.3 122.6 123.9 126.6 131.2 135.8 137.2 131.5 125.7

QASPL 103.4 105.3 104.7 105.5 106.8 109.2 111.1 113.8 118.0 123.9 126.8 122.3 117.9 160.8

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICLE = ADH036 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CNF10 = 4 MODEL = 4
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.60
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNF10 = ARC MIKE HT = NBFR =
FNIN1 = LBS XNL RPM XNH XNHR = RPM V8 = 2159.5 FPS AE8 = 25.3 SQ IN
FNRM1B = LBS XNLR = RPM XNHR = RPM V18 = 2159.5 FPS AE18 = 0. SQ IN
RUNPT = 81F 400-0452 TAPE = X0452C TEST PT NO = 0452 NC = 861 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-0452 X0452F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.
PWL

PWL

DATPROC - FLI,LAN

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| | | | | | | | | | | | | |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 200 | 90.4 | 92.4 | 90.3 | 89.8 | 90.1 | 90.5 | 96.4 | 103.0 | 105.9 | 108.5 | 107.2 | 142.2 |
| 250 | 90.4 | 92.4 | 90.3 | 89.8 | 90.1 | 90.5 | 96.4 | 103.0 | 105.9 | 108.5 | 107.2 | 142.2 |
| 315 | 90.4 | 92.4 | 90.3 | 90.1 | 91.8 | 92.3 | 92.9 | 103.1 | 110.1 | 112.2 | 109.6 | 147.2 |
| 400 | 91.0 | 92.7 | 91.1 | 90.3 | 91.4 | 93.4 | 94.8 | 96.8 | 102.6 | 109.7 | 112.6 | 147.0 |
| 500 | 93.8 | 94.3 | 92.6 | 92.1 | 93.3 | 94.6 | 95.1 | 97.5 | 103.5 | 112.1 | 115.3 | 148.9 |
| 630 | 93.1 | 94.6 | 93.5 | 93.3 | 94.0 | 94.8 | 96.7 | 98.5 | 103.5 | 112.1 | 115.8 | 148.9 |
| 800 | 94.7 | 96.5 | 94.1 | 93.4 | 95.2 | 96.0 | 97.9 | 104.4 | 112.4 | 116.8 | 111.1 | 149.8 |
| 1000 | 96.9 | 95.7 | 94.8 | 94.9 | 95.8 | 96.4 | 97.6 | 105.3 | 111.6 | 116.4 | 111.0 | 149.3 |
| 1250 | 98.0 | 98.1 | 96.2 | 96.4 | 98.1 | 98.3 | 99.9 | 106.1 | 111.5 | 115.8 | 110.5 | 149.2 |
| 1500 | 97.7 | 101.6 | 98.8 | 97.8 | 98.2 | 99.1 | 100.4 | 100.7 | 107.1 | 111.8 | 109.4 | 149.0 |
| 2000 | 99.3 | 99.4 | 97.6 | 97.1 | 98.0 | 98.8 | 100.0 | 101.5 | 107.0 | 110.3 | 108.3 | 147.7 |
| 2500 | 99.3 | 99.4 | 97.6 | 97.1 | 98.0 | 98.8 | 100.0 | 101.5 | 107.0 | 110.3 | 108.3 | 147.7 |
| 3150 | 99.0 | 99.1 | 97.9 | 97.7 | 99.8 | 100.3 | 101.8 | 109.8 | 110.9 | 108.1 | 106.5 | 147.2 |
| 4000 | 99.8 | 100.2 | 97.9 | 97.2 | 99.3 | 100.7 | 102.6 | 106.7 | 109.1 | 110.2 | 106.4 | 146.7 |
| 5000 | 99.8 | 99.5 | 98.5 | 98.2 | 99.7 | 100.1 | 102.6 | 106.3 | 107.9 | 108.7 | 106.6 | 146.3 |
| 6300 | 99.4 | 100.0 | 98.3 | 97.9 | 98.7 | 100.1 | 100.5 | 101.9 | 104.8 | 107.2 | 107.5 | 145.7 |
| 8000 | 98.4 | 98.9 | 98.4 | 97.6 | 99.6 | 99.8 | 100.4 | 106.1 | 107.5 | 105.8 | 107.4 | 145.7 |
| 10000 | 96.1 | 97.2 | 97.1 | 96.8 | 99.2 | 98.7 | 100.2 | 103.9 | 104.5 | 105.7 | 104.9 | 145.1 |
| 12500 | 96.1 | 96.4 | 95.5 | 96.0 | 96.1 | 97.3 | 97.1 | 98.3 | 102.0 | 103.8 | 103.0 | 144.3 |
| 16000 | 94.2 | 94.6 | 94.0 | 93.8 | 93.7 | 95.1 | 95.5 | 98.1 | 99.7 | 100.1 | 101.1 | 143.4 |
| 20000 | 88.8 | 88.9 | 88.4 | 88.2 | 88.7 | 90.4 | 90.6 | 90.5 | 92.9 | 93.4 | 94.3 | 141.4 |
| 25000 | 88.2 | 88.9 | 88.4 | 88.2 | 88.7 | 90.4 | 90.6 | 90.5 | 92.9 | 93.4 | 94.3 | 141.4 |
| 31500 | 84.9 | 86.8 | 86.1 | 85.1 | 84.7 | 86.2 | 86.3 | 86.5 | 89.7 | 88.9 | 90.6 | 141.1 |
| 40000 | 80.2 | 82.3 | 80.8 | 80.1 | 81.1 | 82.6 | 81.8 | 82.0 | 85.3 | 84.7 | 86.1 | 140.4 |
| 50000 | 74.6 | 76.7 | 76.6 | 75.7 | 76.1 | 78.5 | 77.6 | 76.8 | 81.8 | 80.5 | 80.9 | 140.7 |
| 63000 | 69.7 | 71.7 | 70.7 | 70.0 | 72.7 | 73.2 | 72.8 | 71.3 | 79.4 | 76.2 | 80.7 | 141.6 |
| 80000 | 63.9 | 67.6 | 65.5 | 66.2 | 68.2 | 68.0 | 67.1 | 65.1 | 69.6 | 66.4 | 70.9 | 140.9 |
| GA SPL | 110.1 | 110.8 | 109.4 | 109.0 | 109.4 | 110.7 | 111.2 | 112.8 | 117.8 | 122.6 | 125.6 | 120.7 |
| PWL | 122.5 | 123.1 | 121.0 | 121.5 | 122.9 | 123.6 | 125.3 | 130.3 | 133.8 | 136.0 | 132.7 | 132.4 |
| PWL | 122.5 | 124.1 | 121.3 | 121.0 | 122.9 | 123.6 | 125.3 | 130.3 | 133.8 | 136.0 | 132.7 | 132.4 |
| DBA | 185.9 | 189.0 | 187.3 | 187.6 | 189.6 | 189.7 | 188.9 | 187.2 | 193.0 | 190.0 | 194.5 | 185.4 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH036 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 400. FPS
IAPLHA = SB59 LEGA, = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.60 RELHUM = 51.5 PCT
WIND DIR = SB59 DEQ WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2159.5 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNLR RPM V18 = 2159.5 FPS AE18 = 0. SQ IN

RUNPT = 81F-400-0452 TAPE = X0452F TEST PT NO = 0452 NC = 861 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-04521 X04521

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREQ 69.0 72.3 73.8 73.2 73.4 75.0 76.4 76.8 78.1 83.2 89.2 90.6 88.0 79.6 164.5

50 71.7 73.8 73.2 73.4 75.0 76.4 76.8 78.1 83.2 89.2 90.6 88.0 79.6 164.5

80 71.0 74.1 74.0 74.5 75.6 76.6 76.8 78.3 79.8 84.1 91.6 93.7 86.8 78.3 166.3

100 72.6 75.9 74.6 76.8 77.8 78.3 79.1 79.8 85.7 91.8 94.7 87.5 81.5 167.2

125 74.6 75.0 75.2 76.0 77.3 78.1 79.1 79.8 85.7 91.8 94.1 86.4 81.4 166.8

150 75.6 77.2 76.4 77.4 79.5 79.7 79.7 80.9 86.4 90.7 93.3 85.7 80.9 166.6

200 74.9 80.5 78.9 78.6 79.4 80.5 81.7 81.6 87.2 90.8 91.9 85.2 80.5 166.4

250 77.1 77.7 79.4 79.3 78.4 79.8 80.1 82.1 86.6 90.1 90.0 83.5 79.9 165.6

315 75.8 77.7 77.1 77.5 78.8 79.8 80.8 81.8 86.6 88.6 89.4 82.2 78.4 165.2

400 75.1 77.0 77.1 77.7 78.2 80.4 80.8 81.8 86.7 87.7 87.0 81.3 77.1 164.6

500 75.4 77.7 77.0 78.5 80.3 81.0 82.4 85.5 86.6 85.7 79.0 75.1 164.2

630 74.8 76.6 77.0 77.6 78.5 79.8 80.0 82.0 84.8 85.1 83.7 78.5 163.7

800 73.9 76.7 76.6 77.0 78.4 80.0 80.2 81.1 83.1 84.0 82.1 76.5 163.1

1000 72.5 76.3 76.9 77.4 77.1 79.3 79.1 79.4 82.1 82.5 81.6 76.3 163.1

1250 69.7 73.4 74.9 75.6 77.0 78.9 78.2 79.0 81.6 80.6 79.3 74.6 162.5

1600 68.9 71.9 72.8 74.5 75.3 76.7 76.3 76.8 79.3 78.7 76.5 71.4 161.8

2000 65.9 69.6 71.0 72.1 72.6 74.3 74.5 76.4 76.6 75.0 72.9 66.7 160.8

2500 60.7 65.6 67.6 68.4 69.8 71.7 72.0 72.8 72.4 71.1 68.6 63.0 160.0

3150 54.8 60.2 62.6 64.3 65.8 67.6 67.6 66.5 67.1 64.7 62.0 53.3 158.8

4000 45.3 53.3 56.4 57.8 58.8 60.7 60.3 59.3 60.0 55.5 53.7 40.6 158.6

5000 30.8 41.2 45.0 47.5 50.2 52.2 50.9 49.4 43.6 38.5 22.4 19.9 157.9

6300 7.4 21.4 28.7 32.2 35.1 38.3 36.6 33.4 25.2 18.2 159.0 158.2

8000 1.4 7.3 13.6 15.2 13.6 10.2 8.6 10.2 158.3

10000 1.4 7.3 13.6 15.2 13.6 10.2 8.6 10.2 158.3

12500 1.4 7.3 13.6 15.2 13.6 10.2 8.6 10.2 158.3

15000 1.4 7.3 13.6 15.2 13.6 10.2 8.6 10.2 158.3

20000 1.4 7.3 13.6 15.2 13.6 10.2 8.6 10.2 158.3

25000 1.4 7.3 13.6 15.2 13.6 10.2 8.6 10.2 158.3

31500 1.4 7.3 13.6 15.2 13.6 10.2 8.6 10.2 158.3

40000 1.4 7.3 13.6 15.2 13.6 10.2 8.6 10.2 158.3

50000 1.4 7.3 13.6 15.2 13.6 10.2 8.6 10.2 158.3

63000 1.4 7.3 13.6 15.2 13.6 10.2 8.6 10.2 158.3

80000 1.4 7.3 13.6 15.2 13.6 10.2 8.6 10.2 158.3

OASPL 66.0 68.6 68.4 68.8 69.8 91.2 91.7 92.8 97.0 101.0 102.6 96.4 90.3 177.7

PNL 91.0 94.0 94.6 95.6 96.5 98.1 98.2 99.4 102.5 104.2 104.5 98.1 92.6

DBA 81.3 84.0 84.5 85.1 85.9 87.6 87.7 88.8 91.6 92.6 92.2 86.1 81.5

MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NO2. SC-4/NAS3-22514

VEHICL = ADH036 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 400. FPS

IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.60 RELHUM = 51.5 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR = 400. FPS

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2159.5 FPS AEB = 25.3 SQ IN

FNFRAMB = LBS XNLR = RPM V18 = 2159.5 FPS AE18 = 0. SQ IN

00-0452 TAPE = X04521 TEST PT NO = 0452 NC = 861 CORR FAN SPEED = RPM

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DATPROC - FLI,MAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARCIDENTIFICATION - MODEL 81F-ZER-0453 X0453C
BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 88.4 88.0 85.7 87.3 85.4 88.7 88.9 90.5 92.5 97.6 98.2 97.9 99.5 135.1

63 91.7 91.8 91.8 93.1 93.4 95.0 93.9 92.3 96.5 101.1 100.7 99.7 102.3 138.6

80 94.3 99.3 93.3 94.4 96.2 98.8 98.5 97.6 99.3 98.4 101.3 103.2 105.9 141.1

100 94.1 100.6 95.6 97.4 98.0 99.6 100.7 101.4 100.1 101.9 103.3 104.3 109.4 143.7

125 90.9 93.4 95.2 96.7 98.5 100.2 100.8 99.9 100.7 103.7 109.9 111.8 113.7 146.6

160 69.8 90.3 93.3 92.9 92.7 95.3 97.5 98.6 101.3 106.2 110.8 113.7 116.6 148.2

200 91.8 91.3 92.3 93.9 96.2 98.8 99.2 100.4 104.8 107.2 111.8 115.5 118.9 150.3

250 91.3 94.3 95.1 96.1 97.0 98.1 100.2 102.9 105.8 112.4 117.5 120.7 120.1 153.8

315 92.3 94.4 93.6 94.9 96.8 99.9 101.8 103.9 108.6 116.2 118.8 121.3 120.7 155.0

400 94.1 95.9 95.6 96.4 97.3 99.1 100.6 103.3 106.9 113.4 120.0 122.3 120.9 157.6

500 94.4 96.7 96.5 97.3 98.4 101.0 103.6 106.8 112.8 121.3 123.7 123.4 120.8 158.3

630 96.1 98.1 97.9 98.4 99.7 102.1 105.0 108.2 114.9 123.7 125.6 124.0 121.2 159.9

800 100.2 98.7 98.8 99.3 101.4 103.8 105.1 109.0 115.5 124.3 125.5 123.1 119.3 159.9

1000 103.5 104.5 102.8 103.1 105.0 107.1 110.1 116.3 125.5 129.9 135.1 130.6 126.0 160.0

1250 104.7 107.5 105.8 104.8 106.2 106.5 107.9 110.8 117.3 124.9 125.0 120.7 115.9 159.7

1600 105.8 105.3 105.6 105.8 106.4 106.8 109.5 112.2 117.8 125.2 124.1 119.4 114.9 159.6

2000 105.7 105.6 105.6 105.6 106.2 107.6 109.2 112.1 118.5 125.7 121.3 117.9 113.9 159.1

2500 105.4 106.4 105.2 105.5 106.8 108.4 110.5 113.0 117.6 125.3 120.7 116.2 112.2 158.8

3150 104.7 106.3 105.6 106.1 106.9 109.5 110.6 113.4 117.7 123.1 120.2 114.9 110.0 157.6

4000 103.5 104.5 104.8 106.0 106.6 109.1 111.0 113.5 117.7 121.7 118.2 112.9 108.6 156.6

5000 101.7 103.5 103.8 105.0 106.7 108.7 110.1 112.9 116.9 120.8 116.8 111.6 107.2 155.9

6300 100.6 103.5 103.0 104.5 106.6 109.3 110.3 112.8 115.8 119.9 116.0 111.5 106.4 155.4

8000 98.9 102.1 101.9 103.2 105.0 108.3 109.7 111.3 114.6 118.2 114.8 109.4 105.4 154.4

10000 98.5 100.7 101.2 103.0 104.7 108.0 109.6 111.0 113.8 118.0 113.9 108.1 104.0 154.4

12500 96.3 98.8 100.1 100.8 103.3 106.1 107.3 109.1 112.2 116.2 112.2 106.1 101.9 153.5

16000 93.8 97.0 97.5 98.0 101.1 103.6 104.5 108.3 110.6 113.8 109.3 103.7 100.1 152.7

20000 91.6 94.1 95.0 96.5 98.3 101.6 102.9 105.0 107.6 111.5 107.2 102.0 97.2 152.0

25000 87.5 91.4 93.0 95.3 98.3 101.7 102.4 105.2 108.4 105.5 100.9 91.4 151.8

31500 82.9 87.2 87.5 89.1 91.6 95.9 96.6 99.1 103.3 106.5 103.2 96.5 87.5 152.4

40000 78.6 82.7 84.3 85.9 88.8 92.4 93.8 97.0 101.6 103.1 101.4 94.5 83.7 153.9

50000 74.6 78.7 79.7 81.8 84.5 89.2 90.8 93.5 99.1 103.9 98.8 91.4 78.3 157.0

63000 68.6 73.9 76.0 78.6 81.4 84.8 86.1 91.0 98.4 103.2 98.0 87.0 73.7 161.3

80000 62.1 70.4 71.5 74.3 76.4 81.3 84.9 87.3 96.4 98.9 96.6 83.0 67.3 164.9

GASPL 114.7 116.2 115.6 116.2 117.5 119.7 121.2 123.8 128.5 135.2 134.5 132.5 130.3 172.3

FNL 127.7 129.2 128.7 129.4 130.4 132.7 134.2 136.8 141.2 147.5 145.2 141.9 138.7

PWL 127.7 130.7 128.7 129.4 130.9 132.7 134.2 136.8 141.2 147.5 145.2 141.9 138.7

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH033 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CONFIG = 4
IAPLHA = SB59 LEGA = NO MPH EXT DIST = 40.0 FT TAMB F = 75.00 MIKE HT = 29.60 RELHUM = 55.0 PCT
WIND DIR = DEG WIND VEL = WIND VEL = 0. FPS
FNNI = LBS XNL = RPM XNH = RPM V8 = 2609.9 FPS AEB = 25.3 SQ IN
FNRMAMB = LBS XNLR = RPM XNHR = RPM V18 = FPS AE18 = 0. SQ IN
RUNPT = 81F-ZER-0453 TAPE = X0453C TEST PT NO = 0453 NC = 861 CORR FAN SPEED = RPMORIGINAL PAGE IS
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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - B1F-ZER-0453 X0453F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREQ 50 60 70 80 90 100 110 120 130 140 150 160

50 60 70 80 90 100 110 120 130 140 150 160

60 70 80 90 100 110 120 130 140 150 160

70 80 90 100 110 120 130 140 150 160

80 90 100 110 120 130 140 150 160

90 100 110 120 130 140 150 160

100 110 120 130 140 150 160

110 120 130 140 150 160

120 130 140 150 160

130 140 150 160

140 150 160

150 160

160

170

180

190

200

210

220

230

240

250

260

270

280

290

300

310

320

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340

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360

370

380

390

400

410

420

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NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514
VEHICL = ADH033 TEST DATE = 08-19-81
IAPLHA = SB59
WIND DIR = DEG WIND VEL = MPH
FNRMB = LBS XNLR RPM XNHR RPM
FNINI = LBS XNL RPM XNH RPM
RNPFT = TAPF = X0453F TEST PT NO = 0453 NC = 861 CORR FAN SPEED = RPM

ANGLES MEASURED FROM INLET, DEGREES

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DATPROC - FLIRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARCIDENTIFICATION - MODEL
81F-400-0454 X0454C
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

160. 150. 140. 130. 120. 110. 100. 90. 80. 70. 60. 50. 40.

PWL

FREQ

50

63

80

100

125

160

200

250

315

400

500

630

800

1000

1250

1600

2000

2500

3150

4000

5000

6300

8000

10000

12500

16000

20000

25000

31500

40000

50000

63000

80000

CASPL

PWL

PWL

DBA

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH049 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.60 RELHUM = 44.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIOG = ARC MIKE HT = NBFR =FNINI = LBS XNL = RPM XNHR = RPM V8 = 2620.2 FPS AEB = 25.3 SO IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2620.2 FPS AEB = 25.3 SO IN

RUNPT = 81F-400-0454 TAPE = X0454C TEST PT NO = 0454 NC = 861 CORR FAN SPEED = RPM

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IDENTIFICATION - 81F-400-0454 X0454F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

| ORIGINAL | PAGE | QUALITY |
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| | | | | | | | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 200 | 250 | 315 | 400 | 500 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 2500 | 3150 | 4000 | 5000 | 6300 | 8000 | QASPL | PML | PMLT | DBA |
| 149.3 | 152.0 | 154.8 | 157.2 | 159.0 | 160.0 | 161.0 | 162.0 | 163.0 | 164.0 | 165.0 | 166.0 | 167.1 | 168.8 | 169.8 | 170.7 | 171.2 | 171.2 | 171.2 | 171.3 | 171.3 |
| 115.3 | 115.9 | 116.0 | 117.9 | 117.9 | 118.8 | 119.3 | 120.9 | 122.4 | 123.6 | 124.5 | 125.4 | 126.3 | 127.2 | 128.1 | 129.0 | 130.0 | 130.6 | 130.6 | 130.9 | 131.1 |
| 108.3 | 108.3 | 108.3 | 108.9 | 108.9 | 109.4 | 110.8 | 112.4 | 114.0 | 115.6 | 117.2 | 118.8 | 120.4 | 122.0 | 123.6 | 125.2 | 126.8 | 126.5 | 126.5 | 126.9 | 127.7 |
| 97.0 | 97.0 | 97.2 | 97.3 | 97.3 | 98.1 | 99.4 | 101.4 | 103.4 | 104.2 | 104.8 | 105.3 | 105.9 | 106.2 | 106.6 | 106.9 | 107.0 | 107.0 | 107.0 | 107.0 | 107.0 |
| 95.6 | 95.6 | 96.1 | 96.6 | 96.6 | 97.3 | 98.0 | 99.5 | 100.4 | 100.4 | 100.6 | 100.8 | 100.9 | 101.0 | 101.1 | 101.2 | 101.3 | 101.3 | 101.3 | 101.3 | 101.3 |
| 95.3 | 95.3 | 95.3 | 95.3 | 95.3 | 95.6 | 96.3 | 97.1 | 97.8 | 98.0 | 98.1 | 98.2 | 98.3 | 98.4 | 98.5 | 98.6 | 98.7 | 98.7 | 98.7 | 98.7 | 98.7 |
| 94.8 | 94.8 | 94.8 | 94.6 | 94.6 | 94.6 | 94.6 | 94.7 | 94.8 | 94.8 | 94.8 | 94.8 | 94.8 | 94.8 | 94.8 | 94.8 | 94.8 | 94.8 | 94.8 | 94.8 | 94.8 |
| 97.3 | 97.3 | 97.3 | 97.2 | 97.2 | 97.3 | 97.6 | 98.1 | 98.6 | 98.9 | 99.0 | 99.5 | 100.1 | 100.4 | 100.4 | 100.6 | 100.8 | 100.9 | 100.9 | 100.9 | 100.9 |
| 101.7 | 101.7 | 101.7 | 101.6 | 101.5 | 101.4 | 101.3 | 101.0 | 100.8 | 100.3 | 100.3 | 100.3 | 100.3 | 100.3 | 100.3 | 100.3 | 100.3 | 100.3 | 100.3 | 100.3 | 100.3 |
| 108.3 | 108.3 | 108.3 | 108.2 | 108.1 | 108.0 | 107.9 | 107.8 | 107.7 | 107.6 | 107.5 | 107.4 | 107.3 | 107.2 | 107.1 | 107.0 | 106.9 | 106.8 | 106.8 | 106.8 | 106.8 |
| 111.9 | 111.9 | 111.9 | 111.8 | 111.7 | 111.6 | 111.5 | 111.4 | 111.3 | 111.2 | 111.1 | 111.0 | 110.9 | 110.8 | 110.7 | 110.6 | 110.5 | 110.4 | 110.4 | 110.4 | 110.4 |
| 115.3 | 115.3 | 115.3 | 115.2 | 115.1 | 115.0 | 114.9 | 114.8 | 114.7 | 114.6 | 114.5 | 114.4 | 114.3 | 114.2 | 114.1 | 114.0 | 113.9 | 113.8 | 113.8 | 113.8 | 113.8 |
| 117.1 | 117.1 | 117.1 | 117.0 | 116.9 | 116.8 | 116.7 | 116.6 | 116.5 | 116.4 | 116.3 | 116.2 | 116.1 | 116.0 | 115.9 | 115.8 | 115.7 | 115.6 | 115.6 | 115.6 | 115.6 |
| 119.3 | 119.3 | 119.3 | 119.2 | 119.1 | 119.0 | 118.9 | 118.8 | 118.7 | 118.6 | 118.5 | 118.4 | 118.3 | 118.2 | 118.1 | 118.0 | 117.9 | 117.8 | 117.8 | 117.8 | 117.8 |
| 122.9 | 122.9 | 122.9 | 122.8 | 122.7 | 122.6 | 122.5 | 122.4 | 122.3 | 122.2 | 122.1 | 122.0 | 121.9 | 121.8 | 121.7 | 121.6 | 121.5 | 121.4 | 121.4 | 121.4 | 121.4 |
| 126.5 | 126.5 | 126.5 | 126.4 | 126.3 | 126.2 | 126.1 | 126.0 | 125.9 | 125.8 | 125.7 | 125.6 | 125.5 | 125.4 | 125.3 | 125.2 | 125.1 | 125.0 | 125.0 | 125.0 | 125.0 |
| 130.6 | 130.6 | 130.6 | 130.5 | 130.4 | 130.3 | 130.2 | 130.1 | 130.0 | 129.9 | 129.8 | 129.7 | 129.6 | 129.5 | 129.4 | 129.3 | 129.2 | 129.1 | 129.1 | 129.1 | 129.1 |
| 133.6 | 133.6 | 133.6 | 133.5 | 133.4 | 133.3 | 133.2 | 133.1 | 133.0 | 132.9 | 132.8 | 132.7 | 132.6 | 132.5 | 132.4 | 132.3 | 132.2 | 132.1 | 132.1 | 132.1 | 132.1 |
| 136.6 | 136.6 | 136.6 | 136.5 | 136.4 | 136.3 | 136.2 | 136.1 | 136.0 | 135.9 | 135.8 | 135.7 | 135.6 | 135.5 | 135.4 | 135.3 | 135.2 | 135.1 | 135.1 | 135.1 | 135.1 |
| 139.2 | 139.2 | 139.2 | 139.1 | 139.0 | 138.9 | 138.8 | 138.7 | 138.6 | 138.5 | 138.4 | 138.3 | 138.2 | 138.1 | 138.0 | 137.9 | 137.8 | 137.7 | 137.7 | 137.7 | 137.7 |
| 141.3 | 141.3 | 141.3 | 141.2 | 141.1 | 141.0 | 140.9 | 140.8 | 140.7 | 140.6 | 140.5 | 140.4 | 140.3 | 140.2 | 140.1 | 140.0 | 139.9 | 139.8 | 139.8 | 139.8 | 139.8 |
| 144.5 | 144.5 | 144.5 | 144.4 | 144.3 | 144.2 | 144.1 | 144.0 | 143.9 | 143.8 | 143.7 | 143.6 | 143.5 | 143.4 | 143.3 | 143.2 | 143.1 | 143.0 | 143.0 | 143.0 | 143.0 |
| 147.7 | 147.7 | 147.7 | 147.6 | 147.5 | 147.4 | 147.3 | 147.2 | 147.1 | 147.0 | 146.9 | 146.8 | 146.7 | 146.6 | 146.5 | 146.4 | 146.3 | 146.2 | 146.2 | 146.2 | 146.2 |
| 150.9 | 150.9 | 150.9 | 150.8 | 150.7 | 150.6 | 150.5 | 150.4 | 150.3 | 150.2 | 150.1 | 150.0 | 149.9 | 149.8 | 149.7 | 149.6 | 149.5 | 149.4 | 149.4 | 149.4 | 149.4 |
| 154.8 | 154.8 | 154.8 | 154.7 | 154.6 | 154.5 | 154.4 | 154.3 | 154.2 | 154.1 | 154.0 | 153.9 | 153.8 | 153.7 | 153.6 | 153.5 | 153.4 | 153.3 | 153.3 | 153.3 | 153.3 |
| 157.2 | 157.2 | 157.2 | 157.1 | 157.0 | 156.9 | 156.8 | 156.7 | 156.6 | 156.5 | 156.4 | 156.3 | 156.2 | 156.1 | 156.0 | 155.9 | 155.8 | 155.7 | 155.7 | 155.7 | 155.7 |
| 160.7 | 160.7 | 160.7 | 160.6 | 160.5 | 160.4 | 160.3 | 160.2 | 160.1 | 160.0 | 159.9 | 159.8 | 159.7 | 159.6 | 159.5 | 159.4 | 159.3 | 159.2 | 159.2 | 159.2 | 159.2 |
| 163.5 | 163.5 | 163.5 | 163.4 | 163.3 | 163.2 | 163.1 | 163.0 | 162.9 | 162.8 | 162.7 | 162.6 | 162.5 | 162.4 | 162.3 | 162.2 | 162.1 | 162.0 | 162.0 | 162.0 | 162.0 |
| 166.7 | 166.7 | 166.7 | 166.6 | 166.5 | 166.4 | 166.3 | 166.2 | 166.1 | 166.0 | 165.9 | 165.8 | 165.7 | 165.6 | 165.5 | 165.4 | 165.3 | 165.2 | 165.2 | 165.2 | 165.2 |
| 169.7 | 169.7 | 169.7 | 169.6 | 169.5 | 169.4 | 169.3 | 169.2 | 169.1 | 169.0 | 168.9 | 168.8 | 168.7 | 168.6 | 168.5 | 168.4 | 168.3 | 168.2 | 168.2 | 168.2 | 168.2 |
| 171.2 | 171.2 | 171.2 | 171.1 | 171.0 | 170.9 | 170.8 | 170.7 | 170.6 | 170.5 | 170.4 | 170.3 | 170.2 | 170.1 | 170.0 | 169.9 | 169.8 | 169.7 | 169.7 | 169.7 | 169.7 |
| 171.2 | 171.2 | 171.2 | 171.1 | 171.0 | 170.9 | 170.8 | 170.7 | 170.6 | 170.5 | 170.4 | 170.3 | 170.2 | 170.1 | 170.0 | 169.9 | 169.8 | 169.7 | 169.7 | 169.7 | 169.7 |
| 171.2 | 171.2 | 171.2 | 171.1 | 171.0 | 170.9 | 170.8 | 170.7 | 170.6 | 170.5 | 170.4 | 170.3 | 170.2 | 170.1 | 170.0 | 169.9 | 169.8 | 169.7 | 169.7 | 169.7 | 169.7 |
| 171.2 | 171.2 | 171.2 | 171.1 | 171.0 | 170.9 | 170.8 | 170.7 | 170.6 | 170.5 | 170.4 | 170.3 | 170.2 | 170.1 | 170.0 | 169.9 | 169.8 | 169.7 | 169.7 | 169.7 | 169.7 |
| 171.2 | 171.2 | 171.2 | 171.1 | 171.0 | 170.9 | 170.8 | 170.7 | 170.6 | 170.5 | 170.4 | 170.3 | 170.2 | 170.1 | 170.0 | 169.9 | 169.8 | 169.7 | 169.7 | 169.7 | 169.7 |
| 171.2 | 171.2 | 171.2 | 171.1 | 171.0 | 170.9 | 170.8 | 170.7 | 170.6 | 170.5 | 170.4 | 170.3 | 170.2 | 170.1 | 170.0 | 169.9 | 169.8 | 169.7 | 169.7 | 169.7 | 169.7 |
| 171.2 | 171.2 | 171.2 | 171.1 | 171.0 | 170.9 | 170.8 | 170.7 | 170.6 | 170.5 | 170.4 | 170.3 | 170.2 | 170.1 | 170.0 | 169.9 | 169.8 | 169.7 | 169.7 | 169.7 | 169.7 |
| 171.2 | 171.2 | 171.2 | 171.1 | 171.0 | 170.9 | 170.8 | 170.7 | 170.6 | 170.5 | 170.4 | 170.3 | 170.2 | 170.1 | 170.0 | 169.9 | 169.8 | 169.7 | 169.7 | 169.7 | 169.7 |
| 171.2 | 171.2 | 171.2 | 171.1 | 171.0 | 170.9 | 170.8 | 170.7 | 170.6 | 170.5 | 170.4 | 170.3 | 170.2 | 170.1 | 170.0 | 169.9 | 169.8 | 169.7 | 169.7 | 169.7 | 169.7 |
| 171.2 | 171.2 | 171.2 | 171.1 | 171.0 | 170.9 | 170.8 | 170.7 | 170.6 | 170.5 | 170.4 | 170.3 | 170.2 | 170.1 | 170.0 | 169.9 | 169.8 | 169.7 | 169.7 | 169.7 | 169.7 |
| 171.2 | 171.2 | 171.2 | 171.1 | 171.0 | 170.9 | 170.8 | 170.7 | 170.6 | 170.5 | 170.4 | 170.3 | 170.2 | 170.1 | 170.0 | 169.9 | 169.8 | 169.7 | 169.7 | 169.7 | 169.7 |
| 171.2 | 171.2 | 171.2 | 171.1 | 171.0 | 170.9 | 170.8 | 170.7 | 170.6 | 170.5 | 170.4 | 170.3 | 170.2 | 170.1 | 170.0 | 169.9 | 169.8 | 169.7 | 169.7 | 169.7 | 169.7 |
| 171.2 | 171.2 | 171.2 | 171.1 | 171.0 | 170.9 | 170.8 | 170.7 | 170.6 | 170.5 | 170.4 | 170.3 | 170.2 | 170.1 | 170.0 | 169.9 | 169.8 | 169.7 | 169.7 | 169.7 | 169.7 |
| 171.2 | 171.2 | 171.2 | 171.1 | 171.0 | 170.9 | 170.8 | 170.7 | 170.6 | 170.5 | 170.4 | 170.3 | 170.2 | 170.1 | 170.0 | 169.9 | 169.8 | 169.7 | 169.7 | 169.7 | 169.7 |
| 171.2 | 171.2 | 171.2 | 171.1 | 171.0 | 170.9 | 170.8 | 170.7 | 170.6 | 170.5 | 170.4 | 170.3 | 170.2 | 170.1 | 170.0 | 169.9 | 169.8 | 169.7 | 169.7 | 169.7 | 169.7 |
| 171.2 | 171.2 | 171.2 | 171.1 | 171.0 | 170.9 | 170.8 | 170.7 | 170.6 | 170.5 | 170.4 | 170.3 | 170.2 | 170.1 | 170.0 | 169.9 | 169.8 | 169.7 | 169.7 | 169.7 | 169.7 |
| 171.2 | 171.2 | 171.2 | 171.1 | 171.0 | 170.9 | 170.8 | 170.7 | 170.6 | 170.5 | 170.4 | 170.3 | 170.2 | 170.1 | 170.0 | 169.9 | 169.8 | 169.7 | 169.7 | 169.7 | 169.7 |
| 171.2 | 171.2 | 171.2 | 171.1 | 171.0 | 170.9 | 170.8 | 170.7 | 170.6 | 170.5 | 170.4 | 170.3 | 170.2 | 170.1 | 170.0 | 169.9 | 169.8 | 169.7 | 169.7 | 169.7 | 169.7 |
| 171.2 | 171.2 | 171.2 | 171.1 | 171.0 | 170.9 | 170.8 | 170.7 | 170.6 | 170.5 | 170.4 | 170.3 | 170.2 | 170.1 | 170.0 | 169.9 | 169.8 | 169.7 | 169.7 | 169.7 | 169.7 |
| 171.2 | 171.2 | 171.2 | 171.1 | 171.0 | 170.9 | 170.8 | 170.7 | 170.6 | 170.5 | 170.4 | 170.3 | 170.2 | 170.1 | 170.0 | 169.9 | 169.8 | 169.7 | 169.7 | 169.7 | 169.7 |
| 171.2 | 171.2 | 171.2 | 171.1 | 171.0 | 170.9 | 170.8 | 170.7 | 170.6 | 170.5 | 170.4 | 170.3 | 170.2 | 170.1 | 170.0 | 169.9 | 169.8 | 169.7 | 169.7 | 169.7 | 169.7 |
| 171.2 | 171.2 | 171.2 | 171.1 | 171.0 | 170.9 | 170.8 | 170.7 | 170.6 | 170.5 | 170.4 | 170.3 | 170.2 | 170.1 | 170.0 | 169.9 | 169.8 | 169.7 | 169.7 | 169.7 | 169.7 |
| 171.2 | 171.2 | 171.2 | 171.1 | 171.0 | 170.9 | 170.8 | 170.7 | 170.6 | 170.5 | 170.4 | 170.3 | 170.2 | 170.1 | 170.0 | 169.9 | 169.8 | 169.7 | 169.7 | 169.7 | 169.7 |
| 171.2 | 171.2 | 171.2 | 171.1 | 171.0 | 170.9 | 170.8 | 170.7 | 170.6 | 170.5 | 170.4 | 170.3 | 170.2 | 170.1 | 170.0 | 169.9 | 169.8 | 169.7 | 169.7 | 169.7 | 169.7 |
| 171.2 | 171.2 | 171.2 | 171.1 | 171.0 | 170.9 | 170.8 | 170.7 | 170.6 | 170.5 | 170.4 | 170.3 | 170.2 | 170.1 | 170.0 | 169.9 | 169.8 | 169.7 | 169.7 | 169.7 | 169.7 |
| 171.2 | 171.2 | 171.2 | 171.1 | 171.0 | 170.9 | 170.8 | 170.7 | 170.6 | 170.5 | 170.4 | 170.3 | 170.2 | 170.1 | 170.0 | 169.9 | 169.8 | 169.7 | 169.7 | 169.7 | 169.7 |
| 171.2 | 171.2 | 171.2 | 171.1 | 171.0 | 170.9 | 170.8 | 170.7 | 170.6 | 170.5 | 170.4 | 170.3 | 170.2 | 170.1 | 170.0 | 169.9 | 169.8 | 169.7 | 169.7 | 169.7 | 169.7 |
| 171.2 | 171.2 | 171.2 | 171.1 | 171.0 | 170.9 | 170.8 | 1 | | | | | | | | | | | | | |

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-0454 X04541

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 74.3 77.3 75.9 78.3 80.0 81.1 82.7 89.5 96.2 97.7 96.5 91.2 172.2

63 76.7 77.5 77.7 78.4 79.7 80.7 82.1 84.4 91.4 98.8 100.9 98.1 93.3 174.7

80 78.3 79.3 80.3 82.7 85.5 90.7 99.9 101.5 97.5 92.2 175.0

100 78.3 80.7 80.1 79.9 81.9 82.8 83.5 85.3 92.2 101.3 102.6 98.2 94.0 176.2

125 80.5 81.0 80.7 80.9 83.1 84.1 85.3 86.7 94.0 102.0 102.3 96.9 92.9 176.1

160 84.5 85.3 83.8 83.2 86.6 86.4 85.8 87.3 95.0 102.1 102.5 96.2 91.8 176.4

200 85.2 86.9 87.1 86.9 87.5 88.6 88.2 89.1 95.7 102.7 100.3 93.8 90.9 176.0

250 85.5 86.9 88.3 88.6 89.1 88.6 87.6 89.3 95.4 101.9 98.2 92.2 89.5 175.3

315 85.5 87.6 87.4 87.6 87.8 87.8 87.2 89.2 96.2 99.1 95.7 89.4 85.7 174.3

400 85.3 87.2 86.4 87.3 87.2 89.2 89.8 90.2 96.2 99.1 95.7 89.4 85.7 174.3

500 84.1 86.8 86.3 86.5 87.5 88.6 88.6 89.9 91.5 95.0 97.7 93.6 86.0 173.4

630 82.8 85.1 85.6 86.9 88.0 88.3 89.0 91.1 94.0 95.8 92.7 85.5 80.4 172.8

800 80.9 84.1 85.8 87.2 88.5 89.0 90.1 92.7 94.9 90.5 83.7 78.8 172.2

1000 79.3 83.4 84.7 85.7 87.6 88.2 89.2 92.1 93.8 89.3 81.6 76.7 171.8

1250 79.8 83.5 83.7 84.0 85.4 86.7 86.8 87.9 90.0 91.5 87.6 79.2 72.8 171.0

1500 78.0 80.7 81.9 83.2 84.0 85.6 85.0 86.4 89.6 84.2 75.8 69.7 170.3

1600 74.9 78.5 79.6 80.6 80.9 82.3 82.1 84.0 85.3 87.0 81.8 72.3 64.4 169.6

2000 69.7 74.4 75.3 76.5 77.6 79.0 79.1 79.9 82.1 84.0 85.3 87.0 81.8 168.5

2500 63.1 67.8 70.4 72.4 73.4 75.7 75.5 75.6 78.5 80.1 71.4 59.5 42.9 169.0

3150 51.6 59.5 62.1 64.5 66.3 68.9 69.1 69.1 74.8 73.8 65.3 47.8 30.9 173.1

4000 37.0 47.2 50.8 53.9 56.6 60.4 60.7 60.7 65.7 66.0 54.2 30.9 177.0

5000 13.9 28.7 35.5 39.7 43.5 47.4 46.6 45.8 53.2 51.7 35.7 4.1 180.9

6000 8.4 15.4 22.2 25.7 25.3 23.7 32.0 25.4 2.7 180.9

8000 8.4 15.4 22.2 25.7 25.3 23.7 32.0 25.4 2.7 180.9

10000 8.4 15.4 22.2 25.7 25.3 23.7 32.0 25.4 2.7 180.9

12500 8.4 15.4 22.2 25.7 25.3 23.7 32.0 25.4 2.7 180.9

15000 8.4 15.4 22.2 25.7 25.3 23.7 32.0 25.4 2.7 180.9

17500 8.4 15.4 22.2 25.7 25.3 23.7 32.0 25.4 2.7 180.9

20000 8.4 15.4 22.2 25.7 25.3 23.7 32.0 25.4 2.7 180.9

22500 8.4 15.4 22.2 25.7 25.3 23.7 32.0 25.4 2.7 180.9

25000 8.4 15.4 22.2 25.7 25.3 23.7 32.0 25.4 2.7 180.9

27500 8.4 15.4 22.2 25.7 25.3 23.7 32.0 25.4 2.7 180.9

30000 8.4 15.4 22.2 25.7 25.3 23.7 32.0 25.4 2.7 180.9

32500 8.4 15.4 22.2 25.7 25.3 23.7 32.0 25.4 2.7 180.9

35000 8.4 15.4 22.2 25.7 25.3 23.7 32.0 25.4 2.7 180.9

37500 8.4 15.4 22.2 25.7 25.3 23.7 32.0 25.4 2.7 180.9

40000 8.4 15.4 22.2 25.7 25.3 23.7 32.0 25.4 2.7 180.9

42500 8.4 15.4 22.2 25.7 25.3 23.7 32.0 25.4 2.7 180.9

45000 8.4 15.4 22.2 25.7 25.3 23.7 32.0 25.4 2.7 180.9

47500 8.4 15.4 22.2 25.7 25.3 23.7 32.0 25.4 2.7 180.9

50000 8.4 15.4 22.2 25.7 25.3 23.7 32.0 25.4 2.7 180.9

52500 8.4 15.4 22.2 25.7 25.3 23.7 32.0 25.4 2.7 180.9

55000 8.4 15.4 22.2 25.7 25.3 23.7 32.0 25.4 2.7 180.9

57500 8.4 15.4 22.2 25.7 25.3 23.7 32.0 25.4 2.7 180.9

60000 8.4 15.4 22.2 25.7 25.3 23.7 32.0 25.4 2.7 180.9

ORIGINAL PAGE IS
OF POOR QUALITY

DATPROC - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-1405 X1405C

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 84.7 | 81.5 | 78.7 | 79.5 | 80.9 | 82.2 | 82.1 | 86.5 | 88.2 | 87.1 | 95.2 | 94.6 | 95.3 | 130.4 |
| 63 | 88.2 | 85.8 | 84.0 | 85.3 | 86.4 | 88.5 | 87.9 | 92.3 | 92.6 | 92.9 | 100.5 | 98.9 | 100.1 | 135.4 |
| 80 | 88.5 | 92.8 | 87.6 | 88.6 | 89.5 | 91.8 | 92.5 | 91.4 | 91.8 | 92.2 | 94.0 | 95.7 | 98.1 | 134.2 |
| 100 | 87.6 | 91.8 | 88.4 | 89.9 | 90.7 | 91.9 | 92.2 | 92.5 | 94.2 | 96.1 | 100.0 | 101.4 | 136.0 | |
| 125 | 86.4 | 88.4 | 90.2 | 90.9 | 91.8 | 93.4 | 93.0 | 92.7 | 92.0 | 95.2 | 101.4 | 104.3 | 106.5 | 139.1 |
| 160 | 85.8 | 82.8 | 87.3 | 86.6 | 88.2 | 89.3 | 90.2 | 90.6 | 91.6 | 95.9 | 101.5 | 105.2 | 108.9 | 139.8 |
| 200 | 84.3 | 86.8 | 87.6 | 89.3 | 89.4 | 91.2 | 93.6 | 95.7 | 96.5 | 98.3 | 103.7 | 109.8 | 111.4 | 142.7 |
| 250 | 85.0 | 91.8 | 89.3 | 89.1 | 91.4 | 93.0 | 94.9 | 96.5 | 98.9 | 101.3 | 107.5 | 112.1 | 115.5 | 149.0 |
| 315 | 87.1 | 89.9 | 89.1 | 91.4 | 93.0 | 94.9 | 96.5 | 98.9 | 101.3 | 107.5 | 112.1 | 115.5 | 116.4 | 149.0 |
| 400 | 87.6 | 90.4 | 91.6 | 90.4 | 91.3 | 94.4 | 96.0 | 98.7 | 103.4 | 110.2 | 114.6 | 117.3 | 118.9 | 150.6 |
| 500 | 88.4 | 92.0 | 91.3 | 91.9 | 92.7 | 94.5 | 96.6 | 99.7 | 102.2 | 110.7 | 116.6 | 119.2 | 118.7 | 152.4 |
| 630 | 90.1 | 92.1 | 91.9 | 92.7 | 94.5 | 96.6 | 99.7 | 102.2 | 110.7 | 116.6 | 119.2 | 118.7 | 118.2 | 152.4 |
| 800 | 93.7 | 92.5 | 93.3 | 94.0 | 95.9 | 97.2 | 97.9 | 100.5 | 103.9 | 110.8 | 117.2 | 119.4 | 117.5 | 152.4 |
| 1000 | 102.0 | 100.7 | 100.8 | 98.8 | 99.6 | 100.1 | 101.3 | 104.6 | 110.3 | 116.5 | 119.4 | 119.6 | 119.2 | 152.8 |
| 1250 | 104.0 | 103.5 | 100.1 | 100.9 | 102.3 | 102.4 | 102.3 | 104.4 | 110.4 | 115.7 | 118.9 | 118.2 | 118.2 | 152.3 |
| 1600 | 108.0 | 106.0 | 105.3 | 103.8 | 101.4 | 100.0 | 102.3 | 103.2 | 105.3 | 110.0 | 114.9 | 117.9 | 116.9 | 151.9 |
| 2000 | 106.7 | 107.1 | 106.5 | 105.9 | 106.4 | 104.8 | 101.2 | 102.4 | 105.3 | 110.9 | 112.8 | 116.8 | 115.1 | 151.3 |
| 2500 | 104.6 | 104.9 | 104.7 | 105.2 | 105.3 | 105.4 | 104.3 | 103.0 | 105.0 | 110.3 | 111.4 | 115.7 | 113.0 | 150.3 |
| 3150 | 102.7 | 104.1 | 103.3 | 103.3 | 104.2 | 106.2 | 105.4 | 104.6 | 105.9 | 109.1 | 111.2 | 113.7 | 110.8 | 149.5 |
| 4000 | 102.5 | 102.7 | 103.0 | 102.8 | 102.9 | 104.1 | 104.5 | 105.8 | 105.3 | 107.7 | 109.0 | 111.7 | 109.4 | 148.2 |
| 5000 | 100.7 | 102.0 | 101.8 | 102.7 | 102.9 | 103.1 | 104.9 | 105.9 | 106.8 | 108.6 | 110.1 | 107.0 | 104.7 | 147.4 |
| 6300 | 99.8 | 101.8 | 101.5 | 102.0 | 102.6 | 103.1 | 102.6 | 104.1 | 105.8 | 106.2 | 106.8 | 109.0 | 105.9 | 147.0 |
| 8000 | 97.7 | 99.9 | 100.4 | 100.0 | 101.5 | 102.8 | 102.2 | 102.9 | 104.1 | 105.0 | 104.8 | 107.2 | 104.5 | 146.0 |
| 10000 | 97.1 | 98.8 | 99.5 | 100.0 | 101.0 | 102.5 | 101.1 | 102.2 | 104.0 | 104.0 | 104.8 | 105.9 | 104.8 | 145.8 |
| 12500 | 95.4 | 97.1 | 97.9 | 98.4 | 99.9 | 100.9 | 99.6 | 100.6 | 100.8 | 101.8 | 102.5 | 104.2 | 102.2 | 144.9 |
| 16000 | 92.4 | 95.1 | 96.1 | 95.6 | 97.5 | 98.9 | 97.1 | 99.9 | 99.1 | 99.4 | 102.0 | 100.0 | 100.0 | 144.2 |
| 20000 | 90.2 | 92.2 | 92.9 | 93.9 | 95.1 | 96.9 | 95.0 | 97.1 | 96.9 | 96.4 | 96.5 | 98.3 | 143.4 | |
| 25000 | 86.1 | 89.5 | 89.3 | 90.3 | 92.3 | 94.8 | 92.5 | 93.7 | 93.1 | 93.8 | 94.2 | 96.3 | 143.2 | |
| 31500 | 81.6 | 85.7 | 85.5 | 86.4 | 89.1 | 91.2 | 88.9 | 90.8 | 91.2 | 90.7 | 90.4 | 94.5 | 90.6 | 142.8 |
| 40000 | 77.4 | 81.2 | 81.9 | 82.7 | 85.4 | 87.2 | 84.4 | 87.0 | 86.6 | 85.3 | 87.6 | 91.8 | 86.2 | 143.3 |
| 50000 | 73.5 | 76.0 | 77.9 | 80.9 | 83.1 | 79.7 | 79.7 | 84.2 | 81.9 | 83.4 | 86.3 | 85.6 | 78.1 | 144.8 |
| 63000 | 68.7 | 71.1 | 72.6 | 74.1 | 76.4 | 78.1 | 75.4 | 77.0 | 80.3 | 77.4 | 80.3 | 85.6 | 78.1 | 144.8 |
| 80000 | 66.5 | 66.2 | 67.5 | 68.0 | 70.4 | 72.4 | 68.9 | 70.3 | 74.2 | 70.3 | 73.7 | 81.1 | 70.2 | 146.0 |
| QASPL | 114.2 | 114.4 | 113.9 | 113.7 | 114.2 | 114.9 | 114.4 | 115.3 | 117.0 | 121.5 | 125.9 | 128.9 | 128.1 | 163.3 |
| PWL | 126.3 | 126.9 | 126.6 | 126.7 | 127.1 | 128.4 | 127.9 | 128.7 | 129.8 | 133.6 | 136.5 | 139.6 | 138.0 | |
| PNLT | 126.3 | 127.7 | 127.9 | 126.7 | 128.1 | 128.4 | 127.9 | 128.7 | 129.8 | 133.6 | 136.5 | 139.6 | 138.0 | |
| DBA | 114.8 | 114.8 | 114.3 | 114.0 | 114.3 | 114.8 | 114.2 | 114.8 | 116.5 | 121.0 | 125.1 | 128.1 | 127.0 | |

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH054 TEST DATE = 08-20-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4
 IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 68.50 MIKE HT = 29.62 RELHUM = 61.2 PCT
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC NBFR = 0. FPS
 FNINI = LBS XNL RPM XNH RPM XNHR = V8 = 1694.3 FPS AE8 = 25.3 SQ IN
 FNRAMB = LBS XNLR RPM XNHR = V8 = 1694.3 FPS AE18 = 0. SQ IN
 RUNPT = 81F-ZER-1405 TAPE = X1405C TEST PT NO = 1405 NC = 862 CORR FAN SPEED = RPM

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223

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-1405 X14051

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

| | | | | | | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 50 | 65.6 | 69.9 | 72.2 | 71.7 | 73.0 | 76.2 | 77.7 | 80.0 | 84.0 | 89.7 | 92.6 | 93.1 | 89.4 | 168.1 |
| 63 | 66.4 | 71.5 | 72.8 | 71.8 | 74.8 | 77.1 | 78.6 | 80.3 | 83.6 | 90.3 | 93.9 | 95.4 | 90.7 | 169.7 |
| 80 | 68.0 | 71.6 | 72.4 | 73.9 | 76.2 | 77.4 | 79.2 | 80.9 | 82.7 | 90.1 | 94.5 | 94.9 | 90.9 | 169.8 |
| 100 | 71.5 | 71.9 | 73.7 | 75.2 | 77.5 | 79.0 | 79.5 | 81.7 | 84.3 | 90.2 | 95.0 | 95.0 | 89.7 | 169.9 |
| 125 | 79.7 | 80.0 | 81.2 | 79.9 | 80.2 | 80.9 | 81.7 | 82.4 | 85.0 | 94.2 | 94.8 | 91.5 | 170.3 | |
| 150 | 81.5 | 82.7 | 80.8 | 81.1 | 82.3 | 83.8 | 83.8 | 83.3 | 84.7 | 89.5 | 93.3 | 94.1 | 89.7 | 169.7 |
| 200 | 85.3 | 85.0 | 85.4 | 84.7 | 82.7 | 81.5 | 83.6 | 84.0 | 85.4 | 88.9 | 92.1 | 92.8 | 88.0 | 169.3 |
| 250 | 83.6 | 85.7 | 86.3 | 86.5 | 87.5 | 86.0 | 82.3 | 83.0 | 85.1 | 89.6 | 89.7 | 91.3 | 85.5 | 168.7 |
| 315 | 81.2 | 83.3 | 84.3 | 85.6 | 86.1 | 86.9 | 85.1 | 83.3 | 84.5 | 88.6 | 87.9 | 89.6 | 82.6 | 167.8 |
| 400 | 78.8 | 82.0 | 82.5 | 83.4 | 84.7 | 86.9 | 85.9 | 84.6 | 85.1 | 87.0 | 87.3 | 86.9 | 79.4 | 166.9 |
| 500 | 78.0 | 80.3 | 81.9 | 82.5 | 83.1 | 84.5 | 84.7 | 85.5 | 84.2 | 84.5 | 84.2 | 77.0 | 165.7 | |
| 630 | 75.7 | 79.1 | 80.3 | 81.5 | 82.7 | 83.0 | 83.0 | 84.3 | 84.4 | 83.6 | 82.0 | 73.5 | 164.9 | |
| 800 | 74.4 | 78.6 | 79.7 | 81.1 | 82.4 | 83.0 | 82.3 | 84.1 | 83.0 | 81.3 | 80.2 | 71.3 | 164.4 | |
| 1000 | 71.9 | 76.3 | 78.4 | 79.0 | 81.1 | 82.6 | 81.8 | 81.9 | 82.1 | 81.4 | 79.0 | 77.7 | 163.4 | |
| 1250 | 70.7 | 74.9 | 77.3 | 78.9 | 80.5 | 82.2 | 80.6 | 81.1 | 80.6 | 77.6 | 75.6 | 67.6 | 163.2 | |
| 1500 | 68.2 | 72.6 | 75.2 | 76.9 | 78.3 | 78.8 | 79.1 | 78.1 | 77.3 | 75.3 | 72.5 | 62.7 | 162.3 | |
| 2000 | 64.2 | 70.0 | 73.0 | 73.9 | 76.4 | 76.0 | 76.9 | 76.1 | 74.1 | 71.2 | 68.7 | 57.4 | 161.6 | |
| 2500 | 60.2 | 65.9 | 68.9 | 71.5 | 73.6 | 75.6 | 73.5 | 74.7 | 73.0 | 70.1 | 66.5 | 63.5 | 160.9 | |
| 3150 | 52.8 | 60.8 | 63.5 | 66.4 | 69.7 | 72.1 | 69.6 | 69.8 | 69.4 | 65.0 | 56.7 | 37.9 | 160.6 | |
| 4000 | 42.0 | 52.3 | 55.9 | 59.1 | 63.2 | 65.7 | 62.9 | 63.6 | 61.6 | 57.3 | 50.6 | 44.6 | 160.3 | |
| 5000 | 28.0 | 40.2 | 46.0 | 50.1 | 54.5 | 56.9 | 53.5 | 54.4 | 52.8 | 44.3 | 38.3 | 28.1 | 160.7 | |
| 6300 | 6.3 | 20.8 | 28.8 | 34.5 | 39.9 | 42.9 | 38.7 | 38.2 | 36.3 | 26.7 | 16.2 | 0.5 | 160.8 | |
| 8000 | | | | | | | | | | | | | | 163.4 |

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| | | | | | | | | | | | | | | |
|---|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| QASPL | 90.8 | 92.5 | 93.2 | 93.7 | 94.5 | 95.3 | 94.6 | 95.0 | 96.1 | 100.0 | 102.9 | 103.5 | 99.0 | 180.4 |
| PWL | 94.8 | 97.5 | 99.3 | 99.5 | 101.4 | 102.2 | 101.1 | 101.6 | 101.6 | 103.4 | 104.3 | 105.6 | 98.6 | |
| DBA | 83.8 | 86.7 | 88.1 | 89.1 | 90.5 | 91.6 | 90.6 | 91.1 | 91.0 | 91.7 | 91.5 | 91.5 | 85.3 | |
| MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9 | | | | | | | | | | | | | | |

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

| | | | | | | | | | | | | | | | | | |
|---|---|--------|--------------|---|----------|----------|---|--------------|--------|-----------|------------|---------|----|------------|----------|---|------------|
| VEHICL | = | ADH054 | TEST DATE | = | 08-20-81 | LOCAT | = | C41 ANECH CH | CONFIG | = | 4 | MODEL | = | 4 | FLVEL | = | 0. FPS |
| IAPLHA | = | SB59 | IEGA | = | NO | PWL AREA | = | FULL SPHERE | TAMB F | = | 68.50 | PAMB HG | = | 29.62 | RELHUM | = | 61.2 PCT |
| WIND DIR | = | | DEG WIND VEL | = | | MPH | | EXT DIST | = | 2400.0 FT | EXT CONFIG | = | SL | MIKE HT | = | | NBFR |
| FNINI | = | | LBS XNL | = | | RPM | | XNH | = | | RPM | V8 | = | 1694.3 FPS | AE8 | = | 25.3 SQ IN |
| FNRAMB | = | | LBS XNLR | = | | RPM | | XNHR | = | | RPM | V18 | = | | FPS AE18 | = | 0. SQ IN |
| RUNPT = 81F-ZER-1405 TAPE = X14051 | | | | | | | | | | | | | | | | | |
| TEST PT NO = 1405 NC = 862 CORR FAN SPEED = RPM | | | | | | | | | | | | | | | | | |

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | PWL |
|------|-----|
| 40. | |
| 50. | |
| 60. | |
| 70. | |
| 80. | |
| 90. | |
| 100. | |
| 110. | |
| 120. | |
| 130. | |
| 140. | |
| 150. | |
| 160. | |

[illegible]

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NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

| | | | | | | | | | | | | | | | | | |
|----------|---|--------|-------------|----------|-------|----------|--------------|-------------|--------|---|-------|----------|---|---------|------------|----------|----------|
| VEHICL | = | ADH084 | TEST DATE = | 08-24-81 | LOCAT | = | C41 ANECH CH | CONFIG | = | 4 | MODEL | = | 4 | FLTVEL | = | 400. FPS | |
| IAPLHA | = | SB59 | LEGA | = | NO | PWL AREA | = | FULL SPHERE | TAMB F | = | 85.00 | PAMB HG | = | 29.74 | RELHUM | = | 41.6 PCT |
| WIND DIR | = | | DEG | | | WIND VEL | = | | MPH | | | EXT DIST | = | 40.0 FT | EXT CONFIG | = | ARC |
| | | | | | | | | | | | | MIKE HT | = | | NBFR | = | |

| | | | | | | | | | | | | | | |
|--------|-----|------|-----|------|---|-----|-----|---|--------|-----|------|---|------|-------|
| FNNI1 | LBS | XNL | RPM | XNH | = | RPM | V8 | = | 1691.3 | FPS | AE8 | = | 25.3 | SO IN |
| FNNRMB | LBS | XNLR | RPM | XNHR | = | RPM | V18 | = | | FPS | AE18 | = | 0. | SO IN |

RUNPT = 01F-400-1406 TAPE = X1406C TEST PT NO = 1406 NC = 862 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-1406 X1406F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

200
160
125
100
80
63
50
40

250 88.3 91.3 88.7 88.8 87.8 88.1 88.6 89.1 95.8 99.8 103.9 107.3 108.1 141.0
315 88.3 91.3 88.7 88.8 88.4 90.1 91.3 92.5 97.1 102.9 107.3 110.3 108.2 143.3
400 88.9 91.3 89.8 89.1 88.5 90.3 91.1 92.9 98.4 104.4 109.4 111.6 108.3 144.6
500 91.0 91.3 90.6 89.5 90.0 90.8 92.4 94.3 96.7 104.7 111.0 113.0 107.4 145.7
630 91.1 92.6 91.2 90.5 90.1 90.5 91.6 93.8 98.5 105.2 111.1 112.1 106.0 145.4
800 91.4 92.4 91.5 89.9 90.4 91.1 94.5 94.4 95.1 99.9 104.7 110.4 106.4 144.8
1000 102.7 103.9 101.7 95.5 93.0 93.1 93.6 95.1 99.9 104.7 109.3 107.2 105.1 144.5
1250 102.0 99.7 95.6 93.7 96.2 94.3 94.1 95.6 100.5 104.3 108.4 105.7 104.6 143.4
1600 110.1 109.9 103.8 99.4 107.9 101.1 96.5 96.7 101.6 105.8 106.0 105.9 103.0 147.3
2000 109.7 109.0 110.2 110.4 107.3 105.9 99.9 97.3 101.6 105.8 106.0 105.9 103.8 149.1
2500 107.7 108.8 107.2 107.1 102.9 104.8 105.3 100.4 102.6 104.8 105.7 102.2 103.4 147.7
3150 105.8 105.7 104.5 104.2 100.7 102.5 102.6 102.1 103.7 104.3 104.4 101.6 103.6 145.9
4000 103.9 104.0 102.5 101.9 100.3 101.2 101.6 100.9 103.4 103.8 102.6 100.4 102.6 145.0
5000 103.1 103.5 102.8 101.8 100.8 100.9 99.7 101.0 103.7 103.5 101.7 100.4 101.7 144.5
6300 102.6 103.4 101.8 101.6 101.6 101.1 99.5 100.0 101.9 103.1 100.6 99.5 101.7 144.3
8000 102.6 103.8 102.3 102.5 99.8 100.8 99.8 99.4 101.4 101.5 100.4 99.5 101.3 144.5
10000 101.4 102.3 102.1 101.0 100.5 101.0 98.8 98.9 100.4 99.6 99.3 97.8 99.8 144.1
12500 101.6 101.8 101.2 100.8 99.4 98.3 97.4 96.5 97.1 96.7 94.9 94.3 93.8 143.3
16000 99.5 99.7 98.3 98.6 96.7 97.4 96.5 97.1 96.7 94.9 94.3 93.8 95.6 143.3
20000 96.2 97.7 96.8 95.7 95.0 95.2 94.1 94.0 95.1 92.7 91.7 92.7 93.1 142.7
25000 93.6 93.8 93.3 92.6 91.9 92.4 92.0 91.5 92.6 90.2 90.0 90.5 90.5 142.2
31500 87.9 88.4 88.9 87.8 88.0 89.5 88.7 88.4 90.2 85.6 88.1 87.9 87.5 141.6
40000 82.7 85.6 84.5 83.3 84.5 85.8 84.7 84.9 86.4 81.7 83.5 82.9 82.9 141.7
50000 77.6 80.8 80.3 79.3 79.8 81.5 80.5 79.7 82.9 77.6 81.0 80.7 79.1 141.8
63000 72.4 75.7 73.9 74.1 76.8 76.7 77.0 74.8 78.5 72.2 75.3 75.3 73.7 142.5
80000 68.4 75.3 69.4 69.6 68.9 70.6 70.7 66.4 68.7 62.4 65.5 65.5 63.9 143.2

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QASPL 116.6 116.6 115.4 114.9 113.8 112.9 111.7 111.2 113.7 116.5 119.6 120.0 117.6 158.8
PNLT 130.3 131.6 130.6 130.0 128.2 126.8 124.2 126.6 128.2 129.4 128.1 128.1
DBA 189.7 195.9 191.0 191.1 191.5 192.6 192.6 189.4 192.3 186.2 189.3 189.2 187.7

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

VEHICL = ADH084 TEST DATE = 08-24-81
IAPLHA = SB59
WIND DIR = DEG WIND VEL = MPH
LOCAT = C41 ANECH CH CONFIG = 4
PWL AREA = FULL SPHERE TAMB F = 85.00
EXT DIST = 40.0 FT
EXT CONFIG = ARC
PAMB HG = 29.74
RELHUM = 41.6 PCT
FLTVEL = 400. FPS
NBFR =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 1691.3 FPS AE8 = 25.3 SO IN
FNRAMB = LBS XNLR = RPM V18 = 1691.3 FPS AE18 = 0. SO IN

RUNPT = 81F-400-1406 TAPE = X1406F TEST PT NO = 1406 NC = 862 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-1406 X14061

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 50 | 66.9 | 70.8 | 70.4 | 70.4 | 70.2 | 72.1 | 72.8 | 74.2 | 79.0 | 83.9 | 87.4 | 87.4 | 80.8 |
| 63 | 69.0 | 70.8 | 71.2 | 70.8 | 71.7 | 72.6 | 74.1 | 75.6 | 77.3 | 84.2 | 89.0 | 88.7 | 79.8 |
| 80 | 69.0 | 72.1 | 71.7 | 71.7 | 72.3 | 73.2 | 75.1 | 79.0 | 84.7 | 89.0 | 87.8 | 78.3 | 162.8 |
| 100 | 69.2 | 71.8 | 72.0 | 71.1 | 80.9 | 74.8 | 76.0 | 75.7 | 79.9 | 84.5 | 88.3 | 85.8 | 162.2 |
| 125 | 80.4 | 83.2 | 82.1 | 76.6 | 74.6 | 74.8 | 75.1 | 76.3 | 80.3 | 84.0 | 87.0 | 82.6 | 162.0 |
| 160 | 79.5 | 78.9 | 75.9 | 74.7 | 77.6 | 75.9 | 75.6 | 76.6 | 80.8 | 83.4 | 85.9 | 76.2 | 160.9 |
| 200 | 87.3 | 88.8 | 83.9 | 80.2 | 89.1 | 82.5 | 77.8 | 80.7 | 84.7 | 83.4 | 78.6 | 75.3 | 164.7 |
| 250 | 86.6 | 87.7 | 90.0 | 91.0 | 88.3 | 87.1 | 81.0 | 77.9 | 81.7 | 84.6 | 82.8 | 77.4 | 166.5 |
| 315 | 84.2 | 87.1 | 86.7 | 87.5 | 83.7 | 85.8 | 86.1 | 80.8 | 82.1 | 83.2 | 82.2 | 76.1 | 165.1 |
| 400 | 81.9 | 83.6 | 83.7 | 84.2 | 81.2 | 83.2 | 83.1 | 82.2 | 82.9 | 80.5 | 74.8 | 72.2 | 163.4 |
| 500 | 79.4 | 81.6 | 81.4 | 81.7 | 80.5 | 81.5 | 81.9 | 82.6 | 83.3 | 81.3 | 78.2 | 73.0 | 162.4 |
| 630 | 78.2 | 80.7 | 81.4 | 81.3 | 80.7 | 81.0 | 79.7 | 80.5 | 82.2 | 80.6 | 76.7 | 72.3 | 162.0 |
| 800 | 77.1 | 80.2 | 80.8 | 81.3 | 81.0 | 79.2 | 79.2 | 80.1 | 79.8 | 75.2 | 70.7 | 67.1 | 161.7 |
| 1000 | 76.7 | 80.3 | 80.3 | 81.5 | 79.4 | 80.6 | 79.3 | 78.4 | 79.5 | 78.0 | 74.6 | 70.0 | 161.9 |
| 1250 | 75.0 | 78.4 | 79.8 | 79.8 | 79.9 | 80.6 | 78.2 | 77.8 | 78.2 | 75.7 | 73.0 | 67.5 | 161.6 |
| 1600 | 74.3 | 77.4 | 78.5 | 79.3 | 78.6 | 78.7 | 77.4 | 75.9 | 76.7 | 73.6 | 69.8 | 65.5 | 161.5 |
| 2000 | 71.2 | 74.6 | 76.3 | 76.7 | 75.7 | 75.5 | 75.3 | 73.6 | 69.8 | 66.1 | 61.7 | 56.6 | 160.7 |
| 2500 | 66.2 | 71.4 | 72.9 | 73.3 | 73.4 | 73.9 | 72.5 | 71.6 | 71.2 | 66.4 | 61.7 | 56.6 | 160.1 |
| 3150 | 60.2 | 65.1 | 67.5 | 68.6 | 68.9 | 69.8 | 69.1 | 67.5 | 66.8 | 61.5 | 56.6 | 49.4 | 159.6 |
| 4000 | 48.3 | 55.9 | 59.3 | 60.6 | 62.1 | 64.0 | 62.7 | 61.2 | 60.6 | 52.1 | 48.5 | 37.9 | 159.1 |
| 5000 | 33.3 | 44.6 | 48.7 | 50.7 | 53.6 | 55.5 | 53.8 | 52.2 | 50.6 | 40.7 | 34.2 | 20.6 | 159.1 |
| 6300 | 10.4 | 25.5 | 32.4 | 35.9 | 38.8 | 41.2 | 39.5 | 36.3 | 35.0 | 22.4 | 13.9 | 159.3 | 159.9 |
| 8000 | | 4.7 | 11.4 | 17.7 | 18.7 | 17.8 | 12.1 | 9.2 | | | | | |

81F-400

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MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9
NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICLE = ADH084 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 400. FPS
IAPLHA = SB59 IEQA / = NO PML AREA = FULL SPHERE TAMB F = 85.00 MIKE HT = 29.74 RELHUM = 41.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL NBFR =

FNINI = LBS XNLR = RPM XNHR = RPM V8 = 1691.3 FPS AE18 = 25.3 SQ IN
FNAMB = LBS XNLR = RPM XNHR = RPM V8 = 1691.3 FPS AE18 = 25.3 SQ IN

RUNPT = 8 30-1406 TAPE = X14061 TEST PT NO = 1406 NC = 862 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-1411 X1411C
BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.
PWL

50 82.9 81.7 81.2 80.3 81.6 86.5 85.1 86.8 87.4 85.3 95.2 94.1 94.8 130.4
63 86.2 86.3 87.0 85.1 87.7 92.8 91.9 92.1 92.1 92.1 100.5 98.4 99.6 135.6
80 88.5 93.1 87.8 88.1 90.2 92.6 92.5 91.4 92.3 93.2 94.5 96.5 98.4 134.6
100 88.3 92.3 88.4 89.9 91.0 92.1 92.7 95.2 93.0 93.9 96.6 100.0 102.4 136.5
125 87.1 88.9 90.4 90.9 92.3 93.9 93.3 93.2 92.3 96.0 101.9 105.0 107.2 139.7
160 86.0 83.6 87.6 88.6 90.1 91.2 91.6 92.3 96.7 102.0 105.7 109.1 140.2
200 84.5 87.3 88.1 88.1 90.2 91.6 92.5 95.6 96.8 98.9 104.3 109.0 111.9 143.0
250 84.8 82.1 89.6 89.4 91.5 93.3 96.0 97.1 98.1 103.9 109.5 113.5 115.1 147.0
315 87.3 90.6 89.6 91.9 93.5 95.6 96.5 98.7 101.5 107.5 111.6 116.0 116.7 149.2
400 88.1 91.6 91.9 90.9 91.8 94.9 96.3 98.9 103.1 111.0 114.8 117.5 117.7 151.1
500 88.7 92.7 91.5 91.8 93.6 95.7 97.4 99.8 103.2 111.1 116.2 119.4 118.9 152.9
630 90.1 92.3 92.9 92.9 94.7 96.1 98.0 99.7 102.7 111.4 117.6 119.5 118.9 152.9
800 94.9 93.2 93.8 94.3 96.4 97.5 97.9 100.5 104.4 111.6 117.5 119.4 118.0 152.7
1000 102.2 102.5 101.8 99.8 100.1 100.3 100.9 101.5 105.4 110.6 117.0 119.9 120.1 153.3
1250 104.7 104.6 102.2 102.7 102.8 105.4 105.3 105.4 110.6 116.0 118.9 119.9 152.4
1600 108.2 105.5 106.1 104.6 102.4 100.8 102.5 103.7 105.6 110.7 115.4 118.2 117.4 152.3
2000 106.4 106.6 105.7 105.6 106.9 105.6 101.4 103.1 105.8 111.1 113.3 116.8 115.1 151.4
2500 104.4 104.4 104.2 105.0 105.1 105.9 104.8 104.9 105.2 112.4 115.2 113.0 150.4
3150 103.7 103.8 103.3 103.3 103.9 105.5 104.9 104.6 105.4 109.4 112.0 110.8 149.4
4000 102.2 102.5 102.8 102.5 102.4 103.6 104.5 105.8 106.1 108.0 109.5 111.7 109.1 148.3
5000 100.7 102.0 101.5 102.0 102.5 102.9 103.1 104.9 105.9 107.1 108.8 109.4 107.5 147.4
6300 98.0 98.0 101.6 102.0 102.9 102.6 104.1 105.6 106.2 107.5 108.8 106.4 147.0
8000 96.0 99.6 100.6 101.0 102.3 102.2 102.9 104.3 105.5 105.3 107.2 105.5 146.1
10000 97.6 98.5 99.5 100.0 101.0 102.0 101.6 102.2 102.8 104.3 104.7 105.0 145.9
12500 95.9 97.1 97.9 99.7 99.7 98.7 98.8 99.9 99.6 99.7 101.2 100.0 144.3
16000 92.7 94.8 95.6 95.9 97.7 98.7 98.8 99.9 99.7 99.6 99.7 101.2 100.0 144.3
20000 90.5 91.7 93.4 93.9 95.1 96.9 96.5 97.4 97.8 99.1 97.8 143.8
25000 86.4 89.3 89.5 90.1 92.9 94.5 95.0 95.4 94.0 93.6 97.5 94.0 143.2
31500 81.9 85.5 85.8 86.4 88.6 89.1 91.4 90.8 91.7 91.0 90.7 94.0 143.2
40000 77.4 80.7 82.1 82.7 85.1 88.0 87.9 88.0 89.1 86.3 87.9 91.8 143.9
50000 72.8 75.5 76.7 77.9 80.2 83.4 83.2 82.4 85.0 82.4 84.9 87.8 143.9
63000 66.4 70.6 72.4 74.1 76.2 78.6 78.6 77.7 81.1 80.8 84.8 79.6 145.2
80000 60.5 66.2 67.2 68.0 70.2 73.1 73.2 70.5 75.0 71.8 76.0 79.4 146.3

QASPL 114.4 114.3 114.0 113.8 114.3 114.9 114.6 115.5 117.2 122.0 126.3 129.0 128.4 163.5
PWL 126.5 126.9 126.7 127.1 128.1 127.9 128.8 130.0 133.9 137.0 139.4 138.3
DBA 115.0 114.7 114.3 114.0 114.4 114.7 114.3 115.1 116.8 121.4 125.5 128.1 127.2

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH056 TEST DATE = 08-20-81
IAPLHA = SB59
WIND DIR = DEG WIND YEL = MPH
EXT AREA = FULL SPHERE
EXT DIST = 40.0 FT
EXT CONFIG = ARC
TAMB F = 68.50
PAMB HG = 29.62
RELHUM = 61.2 PCT
FLTVEL = 0. FPS
NBFR =

FNINI = LBS XNL RPM XNH RPM XNHR =
FNRAMB = LBS XNL RPM V6 = 1715.8 FPS AE8 = 25.3 SQ IN
CORR FAN SPEED = RPM

RUNPT = 81F-ZER-1411 TAPE = X1411C TEST PT NO = 1411 NC = 862

ORIGINAL PAGE IS
OF POOR QUALITY

DATPROC - FLTRAN

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-1411 X1411F

ANGLES MEASURED FROM INLET, DEGREES

| | | | | | | | | | | | | | |
|---|--|------------------------|--------------------|------------------|------------------|-------------------|--------|-----------------|------------------|-------|-------|-------|-------|
| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
| PWL | 82.9 | 81.7 | 81.2 | 80.3 | 81.6 | 86.5 | 85.1 | 86.8 | 87.4 | 85.3 | 95.2 | 94.1 | 94.6 |
| 50 | 86.2 | 86.3 | 87.0 | 85.1 | 87.7 | 92.8 | 91.9 | 92.1 | 92.1 | 92.1 | 100.5 | 98.4 | 99.6 |
| 63 | 88.5 | 93.1 | 87.8 | 88.1 | 90.2 | 92.6 | 92.6 | 91.4 | 92.3 | 93.2 | 94.5 | 96.5 | 98.4 |
| 80 | 88.3 | 92.3 | 88.4 | 89.9 | 91.0 | 92.1 | 92.7 | 93.0 | 93.0 | 93.9 | 96.6 | 100.0 | 102.4 |
| 100 | 88.3 | 92.3 | 88.4 | 89.9 | 91.0 | 92.1 | 92.7 | 93.0 | 93.0 | 93.9 | 96.6 | 100.0 | 102.4 |
| 125 | 87.1 | 86.9 | 86.9 | 86.6 | 88.5 | 90.1 | 91.2 | 91.6 | 92.3 | 92.3 | 96.7 | 102.0 | 109.1 |
| 150 | 86.0 | 83.6 | 87.6 | 86.6 | 88.5 | 90.1 | 91.2 | 91.6 | 92.3 | 92.3 | 96.7 | 102.0 | 109.1 |
| 200 | 84.5 | 87.3 | 88.1 | 88.1 | 90.2 | 91.6 | 92.5 | 95.6 | 96.8 | 98.9 | 104.3 | 109.0 | 143.0 |
| 250 | 84.8 | 89.6 | 89.4 | 91.5 | 93.3 | 96.0 | 97.1 | 98.1 | 103.9 | 109.5 | 113.5 | 115.1 | 147.0 |
| 315 | 87.3 | 90.6 | 89.6 | 91.9 | 93.5 | 96.5 | 98.7 | 101.5 | 107.5 | 111.6 | 116.0 | 116.7 | 149.2 |
| 400 | 88.1 | 91.6 | 91.9 | 90.9 | 91.8 | 94.9 | 96.3 | 98.9 | 103.1 | 111.0 | 114.8 | 117.5 | 151.1 |
| 500 | 88.7 | 92.7 | 91.5 | 91.8 | 93.6 | 95.7 | 97.4 | 99.8 | 103.2 | 111.1 | 116.2 | 119.4 | 152.3 |
| 630 | 90.1 | 92.3 | 92.9 | 94.7 | 96.1 | 98.0 | 99.7 | 102.7 | 111.4 | 117.6 | 119.5 | 118.9 | 152.9 |
| 800 | 94.9 | 93.2 | 93.8 | 94.3 | 96.4 | 97.5 | 97.9 | 100.5 | 104.4 | 111.6 | 117.5 | 119.4 | 152.7 |
| 1000 | 102.2 | 102.5 | 101.8 | 99.8 | 100.3 | 102.7 | 102.5 | 105.3 | 109.3 | 117.0 | 119.9 | 117.9 | 152.4 |
| 1250 | 104.7 | 104.8 | 101.5 | 100.6 | 102.2 | 102.3 | 102.7 | 105.4 | 109.6 | 110.6 | 116.0 | 118.9 | 152.4 |
| 1600 | 108.2 | 105.5 | 106.1 | 104.6 | 102.4 | 100.8 | 102.5 | 103.7 | 105.6 | 110.7 | 115.4 | 118.2 | 152.3 |
| 2000 | 106.4 | 106.6 | 105.7 | 106.9 | 105.6 | 101.4 | 103.1 | 105.2 | 110.5 | 112.4 | 115.2 | 113.0 | 150.4 |
| 2500 | 104.4 | 104.2 | 105.0 | 105.1 | 104.8 | 104.0 | 104.8 | 104.9 | 105.9 | 107.1 | 108.8 | 107.5 | 147.4 |
| 3150 | 103.7 | 103.8 | 103.3 | 103.9 | 105.5 | 104.6 | 104.6 | 105.4 | 109.4 | 112.0 | 113.2 | 110.8 | 149.4 |
| 4000 | 102.2 | 102.5 | 102.8 | 102.5 | 102.4 | 103.6 | 104.5 | 105.8 | 106.1 | 108.0 | 109.5 | 111.7 | 148.3 |
| 5000 | 100.7 | 102.0 | 101.5 | 102.0 | 102.9 | 103.1 | 104.9 | 105.9 | 107.1 | 108.8 | 109.8 | 107.5 | 147.4 |
| 6300 | 99.8 | 101.6 | 101.5 | 102.0 | 102.4 | 102.6 | 104.1 | 105.6 | 106.2 | 107.5 | 108.8 | 106.4 | 147.0 |
| 8000 | 98.0 | 99.6 | 100.6 | 100.3 | 101.0 | 102.3 | 102.9 | 104.3 | 105.5 | 105.3 | 107.2 | 105.5 | 146.1 |
| 10000 | 97.6 | 98.5 | 99.5 | 100.0 | 101.0 | 102.0 | 101.6 | 102.2 | 102.8 | 104.3 | 105.7 | 105.0 | 145.9 |
| 12500 | 97.1 | 97.9 | 97.9 | 99.7 | 100.6 | 100.6 | 100.6 | 101.1 | 102.5 | 103.0 | 103.4 | 102.0 | 145.0 |
| 16000 | 92.7 | 94.8 | 95.6 | 95.9 | 97.7 | 98.7 | 98.8 | 99.9 | 99.7 | 99.6 | 99.7 | 101.2 | 144.3 |
| 20000 | 90.5 | 91.7 | 93.4 | 93.9 | 95.1 | 96.9 | 96.5 | 97.4 | 97.4 | 96.9 | 97.8 | 99.1 | 143.8 |
| 25000 | 86.4 | 89.3 | 89.5 | 90.1 | 92.9 | 94.5 | 95.0 | 94.0 | 93.6 | 97.5 | 93.8 | 143.5 | |
| 31500 | 85.5 | 85.8 | 86.4 | 88.6 | 91.5 | 91.4 | 90.8 | 91.7 | 91.0 | 90.7 | 94.0 | 91.1 | 143.2 |
| 40000 | 72.4 | 76.7 | 76.7 | 77.9 | 80.2 | 83.4 | 83.2 | 82.4 | 85.0 | 82.4 | 83.3 | 143.9 | |
| 50000 | 66.4 | 70.6 | 72.4 | 74.1 | 76.2 | 78.6 | 78.6 | 77.7 | 81.1 | 80.8 | 84.8 | 79.6 | 145.2 |
| 63000 | 60.5 | 66.2 | 67.2 | 68.0 | 70.2 | 73.1 | 73.2 | 70.5 | 75.0 | 71.8 | 76.0 | 79.4 | 146.3 |
| 80000 | 114.4 | 114.3 | 114.0 | 113.8 | 114.3 | 114.9 | 114.6 | 115.5 | 117.2 | 122.0 | 126.3 | 129.0 | 163.5 |
| GASPL | 114.4 | 114.3 | 114.0 | 113.8 | 114.3 | 114.9 | 114.6 | 115.5 | 117.2 | 122.0 | 126.3 | 129.0 | 163.5 |
| PWL | 126.5 | 126.9 | 126.5 | 126.7 | 126.2 | 128.1 | 127.9 | 128.8 | 130.0 | 133.9 | 137.0 | 139.4 | 138.3 |
| PFLT | 126.5 | 126.9 | 126.5 | 126.7 | 126.2 | 128.1 | 127.9 | 128.8 | 130.0 | 133.9 | 137.0 | 139.4 | 138.3 |
| DBA | 182.6 | 187.6 | 188.9 | 189.9 | 192.0 | 194.9 | 194.9 | 196.9 | 199.6 | 193.6 | 197.4 | 201.0 | 194.2 |
| MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 | FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES | | | | | | | | | | | | |
| NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514 | | | | | | | | | | | | | |
| VEHICL = ADH056 | TEST DATE = 08-20-81 | LOCAT = C41 ANECH CH | CONFIG = 4 | MODEL = 4 | PAMB HG = 29.62 | RELHUM = 61.2 PCT | NBFR = | FLTVEL = 0. FPS | | | | | |
| IAPLHA = SB59 | IEGA = NO | PWL AREA = FULL SPHERE | TAMB F = 68.50 | MIKE HT = | | | | | | | | | |
| WIND DIR = | DEG WIND VEL = | MPH | EXT DIST = 40.0 FT | EXT CONFIG = ARC | | | | | | | | | |
| FNINI = | LBS XNL | RPM | XNH | RPM | V8 | FPS | AE18 | = 25.3 SQ IN | | | | | |
| FNRAMB = | LBS XNLR | RPM | XNHR | RPM | V8 | FPS | AE18 | = 0. SQ IN | | | | | |
| RUNPT = | ZER-1411 | TAPE | = X1411F | | TEST PT NO = 141 | NC | = 862 | | CORR FAN SPEED = | | RPM | | |

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-1411 X14111

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 66.1 71.1 72.5 72.2 73.5 76.7 78.0 80.2 83.7 90.5 92.8 93.3 90.1 168.5

60 66.7 72.2 72.1 73.1 75.3 77.6 79.1 81.1 83.8 90.6 94.2 95.1 90.7 169.7

80 68.0 71.8 73.4 74.2 76.4 77.9 79.7 80.9 83.2 90.9 95.5 95.2 91.2 170.3

100 72.8 72.6 74.2 75.5 78.0 79.3 79.5 81.7 84.8 91.0 95.3 95.0 90.2 170.1

125 79.9 81.8 82.2 80.9 81.7 81.9 82.4 82.7 85.7 89.9 94.7 95.3 92.0 170.8

160 82.2 83.9 81.8 81.6 83.6 84.1 83.8 85.7 89.7 93.5 94.1 89.5 169.9

200 85.5 84.5 86.1 85.4 83.7 82.2 83.8 84.5 85.7 89.7 92.6 93.0 88.5 169.7

250 83.4 85.2 85.6 86.2 88.0 86.8 85.6 83.7 85.6 89.8 90.2 91.3 85.5 168.9

315 80.9 82.8 83.8 85.3 85.9 86.9 85.6 84.3 84.8 88.9 88.9 89.1 82.6 167.8

400 79.8 81.7 82.5 83.4 84.4 86.2 85.4 84.6 84.6 87.3 88.0 86.4 79.4 166.8

500 77.8 80.0 81.6 82.3 82.6 84.0 84.7 85.5 84.9 85.5 85.0 84.2 76.7 165.7

630 75.7 79.1 80.0 81.5 82.4 83.0 83.0 84.3 84.4 84.2 83.9 81.3 74.0 164.8

800 74.4 78.3 79.7 81.1 82.1 82.7 82.3 83.2 83.8 83.0 82.1 80.0 71.8 164.4

1000 72.1 76.1 78.7 79.3 80.6 82.1 81.8 81.9 82.4 81.9 79.5 77.7 69.7 163.6

1250 71.2 74.6 77.3 78.9 80.5 81.7 81.1 81.1 80.6 78.3 75.4 72.4 67.9 163.3

1600 68.7 72.6 75.2 76.4 78.8 80.0 79.8 79.1 78.4 78.0 75.8 71.8 62.4 162.4

2000 64.4 69.8 72.5 74.1 76.7 77.9 77.8 76.1 76.7 74.6 71.5 68.0 57.4 161.7

2500 60.5 65.4 69.4 71.5 73.6 75.6 75.0 73.5 73.5 70.6 67.8 63.0 50.3 161.2

3150 53.0 60.6 63.7 66.1 70.0 71.9 72.1 70.5 69.6 65.3 60.3 56.4 37.9 161.0

4000 42.3 52.0 56.2 59.1 62.7 65.9 65.4 63.6 62.1 57.5 51.1 44.1 20.7 160.6

5000 28.0 39.7 46.3 50.1 54.2 57.6 57.0 55.4 53.3 45.3 38.5 28.1 161.4

6300 5.6 20.3 28.8 34.5 39.1 43.2 42.2 39.0 37.1 27.2 17.7 162.6

8000 163.7

10000 163.7

12500 163.7

16000 163.7

20000 163.7

25000 163.7

31500 163.7

40000 163.7

50000 163.7

63000 163.7

80000 163.7

DBA 84.0 86.5 88.0 89.1 90.3 91.3 90.9 91.1 91.1 92.0 92.1 91.4 85.5

PWL 95.1 97.3 98.5 99.5 101.1 101.6 101.9 101.5 101.7 102.3 103.8 104.8 98.9

GNAPL 91.0 92.5 93.3 93.8 94.7 95.3 94.8 95.2 96.4 100.4 103.4 103.6 99.3 180.6

MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH056 TEST DATE = 08-20-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLVEL = 0. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 68.50 PAMB HG = 29.62 RELHUM = 61.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH XNHR = RPM V8 = 1715.8 FPS AE8 = 25.3 SQ IN
FNAMB = LBS XNLR = RPM XNH XNHR = RPM V8 = 1715.8 FPS AE8 = 25.3 SQ IN

RUNPT = 81F-ZER-1411 TAPE = X14111 TEST PT NO = 1411 NC = 862 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-1412 X1412C
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 86.2 84.7 81.7 80.0 80.1 81.0 81.4 82.5 89.9 97.1 92.2 91.4 97.5 131.8

63 86.2 85.0 87.8 87.5 85.7 87.5 87.4 87.6 90.6 107.1 91.5 91.3 97.3 138.7

80 88.8 93.3 88.1 88.9 89.0 91.6 92.0 91.6 92.5 92.9 93.8 96.0 98.9 134.4

100 87.8 91.8 87.6 88.7 89.0 90.1 91.0 92.7 91.3 91.4 94.6 99.3 101.4 135.1

125 85.1 87.6 88.4 89.2 89.8 91.9 91.8 91.2 91.3 93.5 99.4 103.0 105.5 137.7

160 83.0 81.3 86.1 85.1 85.5 86.3 88.2 88.1 84.2 99.8 103.7 106.9 138.0

200 83.5 83.6 85.3 84.1 85.5 88.3 89.2 91.6 94.5 95.4 101.0 106.5 140.1

250 82.8 85.8 85.3 86.6 87.5 89.3 91.7 94.1 95.8 100.7 107.0 111.0 143.9

315 82.6 85.4 86.1 86.7 87.8 90.9 93.3 95.7 99.8 105.0 109.1 113.0 145.8

400 83.8 85.9 86.6 86.9 87.3 90.4 92.5 95.7 100.4 107.0 111.8 114.5 147.2

500 83.7 87.0 86.8 88.0 88.9 91.0 93.6 96.8 100.7 107.6 113.0 113.9 147.2

630 85.1 87.4 87.6 89.0 89.0 91.4 93.0 95.9 98.7 106.9 113.1 113.0 146.6

800 92.7 94.7 95.3 92.1 96.4 94.0 95.4 97.8 101.4 107.6 113.2 110.6 146.4

1000 97.7 97.5 96.5 92.3 91.8 92.2 93.5 95.2 97.1 100.9 106.9 111.5 144.8

1250 102.5 104.5 100.8 98.3 95.4 94.3 95.4 97.3 101.2 106.4 110.5 104.9 145.0

1600 102.5 103.6 107.4 106.5 101.8 98.7 97.8 98.7 101.4 106.5 108.9 102.7 146.6

2000 99.2 101.1 101.0 101.4 103.2 104.8 100.7 98.9 101.3 106.7 106.8 100.4 144.9

2500 98.2 99.2 98.5 99.3 99.6 101.7 103.6 101.3 101.8 106.1 104.9 99.2 143.9

3150 99.0 99.3 98.1 97.6 98.0 99.5 100.7 102.4 102.2 105.1 105.0 98.0 143.2

4000 98.2 98.5 98.3 97.4 98.0 99.0 101.6 102.4 103.7 103.0 96.9 91.1 142.4

5000 96.7 98.0 97.8 98.0 98.2 97.8 97.8 100.1 102.9 103.1 101.8 95.9 142.0

6300 96.6 98.1 98.2 97.7 98.7 98.9 97.6 99.3 101.6 102.5 100.5 95.6 141.8

8000 95.2 97.1 96.8 96.5 98.1 97.7 98.6 99.9 101.2 98.8 93.7 88.5 141.1

10000 94.8 95.8 96.8 97.0 97.5 98.0 96.6 97.7 98.9 99.3 97.7 92.4 140.9

12500 92.9 94.1 95.6 94.6 95.9 97.2 95.6 96.4 97.3 97.3 95.5 90.9 140.1

16000 89.9 92.9 93.3 92.9 93.5 95.0 94.1 95.6 96.2 94.4 92.2 88.8 139.6

20000 87.5 89.0 90.4 91.4 91.4 93.0 92.6 92.6 94.2 91.9 90.3 86.6 139.1

25000 83.3 86.2 87.0 86.3 88.8 91.2 90.7 89.9 90.3 88.2 86.5 84.4 138.5

31500 79.0 82.4 82.7 82.8 84.5 86.6 86.5 87.0 86.9 84.2 83.4 80.4 137.8

40000 74.5 77.7 79.4 79.4 81.3 83.4 83.0 83.7 83.6 79.4 80.4 76.9 138.3

50000 70.1 73.9 74.3 74.6 76.5 79.2 79.1 78.6 79.6 74.8 76.2 72.9 138.3

63000 64.8 72.6 71.0 71.2 73.4 74.8 74.8 73.8 75.7 70.4 72.1 68.5 139.7

80000 61.2 73.0 69.9 67.3 68.5 69.6 69.3 67.6 69.6 66.6 66.7 63.4 142.3

DBA 110.2 111.4 111.1 111.6 111.5 111.2 110.5 111.2 113.1 117.3 120.2 118.3 112.2

PWL 122.1 124.5 125.8 127.0 126.0 126.1 124.5 125.2 126.5 130.0 131.2 129.3 124.9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICLE = ADH063 TEST DATE = 08-24-81
IAPLHA = SB59 PML AREA = FULL SPHERE
WIND DIR = DEG WIND VEL = MPH
FNRAMB = LBS XNLR = RPM XNHR = RPM
FNINI = LBS XNL = RPM V8 = 1713.9 FPS AEB = 25.3 SQ IN
CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

DATPRC - FLIRAN

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-1412 X1412F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.
PWL

| | | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 250 | 90.0 | 91.8 | 90.0 | 89.7 | 89.6 | 91.1 | 91.9 | 92.9 | 97.1 | 102.9 | 107.4 | 110.4 | 112.6 | 109.1 | 145.6 |
| 315 | 90.0 | 91.8 | 90.0 | 89.7 | 89.6 | 91.1 | 91.9 | 92.9 | 97.1 | 102.9 | 107.4 | 110.4 | 112.6 | 109.1 | 145.6 |
| 400 | 90.3 | 91.8 | 90.1 | 89.1 | 89.1 | 90.6 | 91.2 | 92.9 | 99.0 | 105.2 | 110.4 | 112.6 | 109.1 | 145.6 | |
| 500 | 91.2 | 92.1 | 91.5 | 90.3 | 90.8 | 91.3 | 92.9 | 95.1 | 97.5 | 103.9 | 108.9 | 113.6 | 108.6 | 146.4 | |
| 630 | 91.4 | 93.4 | 91.7 | 91.5 | 90.9 | 91.8 | 92.4 | 94.3 | 100.2 | 106.2 | 112.3 | 112.5 | 107.3 | 146.3 | |
| 800 | 92.4 | 93.6 | 92.5 | 91.3 | 91.3 | 94.5 | 94.7 | 96.0 | 100.3 | 106.2 | 111.6 | 111.1 | 108.3 | 145.8 | |
| 1000 | 97.6 | 98.9 | 98.6 | 94.5 | 93.9 | 94.2 | 94.6 | 95.5 | 100.5 | 105.5 | 110.4 | 108.3 | 106.4 | 144.7 | |
| 1250 | 105.1 | 102.6 | 97.0 | 95.0 | 97.3 | 95.1 | 94.9 | 95.7 | 100.7 | 105.8 | 108.9 | 106.2 | 105.4 | 144.5 | |
| 1500 | 109.9 | 110.7 | 105.6 | 101.7 | 108.7 | 102.8 | 97.5 | 97.2 | 101.1 | 106.3 | 105.9 | 103.8 | 104.8 | 148.1 | |
| 1600 | 109.9 | 110.7 | 105.6 | 101.7 | 108.7 | 102.8 | 97.5 | 97.2 | 101.1 | 106.3 | 105.9 | 103.8 | 104.8 | 148.1 | |
| 2000 | 108.6 | 109.0 | 110.1 | 110.7 | 105.9 | 106.1 | 101.0 | 97.9 | 102.2 | 106.3 | 105.9 | 103.8 | 104.8 | 148.1 | |
| 2500 | 106.8 | 107.6 | 106.3 | 105.4 | 102.3 | 103.3 | 104.4 | 100.9 | 102.7 | 105.4 | 106.0 | 102.5 | 103.5 | 146.9 | |
| 3150 | 104.5 | 104.9 | 103.3 | 103.1 | 100.7 | 101.5 | 101.6 | 102.0 | 103.9 | 105.0 | 104.9 | 102.3 | 104.0 | 145.5 | |
| 4000 | 104.3 | 104.0 | 102.1 | 100.9 | 100.5 | 100.5 | 100.8 | 102.1 | 104.5 | 104.3 | 103.6 | 101.1 | 102.7 | 144.9 | |
| 5000 | 103.0 | 103.0 | 102.8 | 101.9 | 101.8 | 101.2 | 99.9 | 100.9 | 103.5 | 104.1 | 102.8 | 101.3 | 102.7 | 144.8 | |
| 6300 | 102.6 | 103.7 | 102.9 | 102.4 | 102.6 | 101.9 | 99.8 | 100.3 | 102.3 | 103.5 | 101.7 | 100.1 | 102.3 | 144.9 | |
| 8000 | 102.9 | 104.0 | 103.5 | 102.2 | 100.4 | 101.1 | 100.0 | 99.9 | 102.0 | 102.3 | 101.4 | 99.5 | 102.1 | 144.9 | |
| 8000 | 102.9 | 104.0 | 103.5 | 102.2 | 100.4 | 101.1 | 100.0 | 99.9 | 102.0 | 102.3 | 101.4 | 99.5 | 102.1 | 144.9 | |
| 10000 | 101.2 | 102.8 | 102.4 | 101.0 | 101.6 | 101.0 | 99.0 | 98.0 | 100.8 | 100.8 | 99.0 | 97.5 | 99.7 | 144.6 | |
| 12500 | 101.7 | 101.9 | 102.0 | 101.3 | 100.0 | 100.2 | 98.0 | 96.0 | 100.8 | 99.0 | 97.5 | 97.3 | 99.7 | 144.6 | |
| 15000 | 99.2 | 99.7 | 100.3 | 98.4 | 97.5 | 98.0 | 96.5 | 97.6 | 99.1 | 96.8 | 96.0 | 95.7 | 97.4 | 144.0 | |
| 20000 | 95.9 | 98.0 | 97.6 | 96.2 | 95.5 | 96.0 | 95.0 | 94.5 | 95.6 | 93.6 | 92.6 | 93.6 | 93.7 | 143.3 | |
| 25000 | 92.9 | 93.6 | 94.1 | 93.1 | 92.9 | 94.2 | 92.9 | 91.5 | 93.4 | 90.8 | 90.8 | 91.3 | 91.5 | 142.8 | |
| 31500 | 87.8 | 90.0 | 89.9 | 88.2 | 88.5 | 89.6 | 89.0 | 88.9 | 91.0 | 86.5 | 86.7 | 88.5 | 88.5 | 142.2 | |
| 40000 | 82.7 | 85.4 | 84.8 | 83.9 | 85.3 | 86.4 | 85.5 | 85.7 | 87.3 | 82.6 | 84.9 | 85.1 | 84.3 | 142.3 | |
| 50000 | 77.8 | 80.3 | 81.0 | 80.1 | 82.2 | 81.1 | 82.2 | 81.6 | 80.6 | 78.4 | 80.6 | 79.9 | 81.4 | 142.5 | |
| 63000 | 75.2 | 77.8 | 76.8 | 75.5 | 78.0 | 77.8 | 77.0 | 75.3 | 77.0 | 73.5 | 73.9 | 73.6 | 78.4 | 143.3 | |
| 80000 | 68.4 | 75.1 | 71.9 | 70.6 | 72.6 | 72.6 | 70.7 | 67.6 | 67.2 | 63.7 | 64.1 | 63.8 | 68.6 | 144.2 | |
| DBA | 190.5 | 196.0 | 193.4 | 192.1 | 194.2 | 194.2 | 192.7 | 190.3 | 191.2 | 187.4 | 188.2 | 187.8 | 192.0 | | |
| PWL | 127.8 | 128.5 | 127.8 | 125.6 | 125.1 | 124.5 | 124.0 | 126.8 | 128.9 | 130.0 | 128.7 | 128.8 | | | |
| GASPL | 116.2 | 116.7 | 115.5 | 114.8 | 114.0 | 113.1 | 111.6 | 111.4 | 114.2 | 117.2 | 120.4 | 120.7 | 118.6 | 159.2 | |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH083 TEST DATE = 08-24-81 LOCAL AREA = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 400. FPS
IAPLHA = SB59 IEQA / = NO EXT AREA = FULL SPHERE TAMB F = 85.00 PAMB HG = 29.74 RELHUM = 41.6 PCT
WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NDFR =

FNINI = LBS XNL RPM XNHR = RPM V8 = 1713.9 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNL RPM XNHR = RPM V8 = 1713.9 FPS AE8 = 25.3 SQ IN

RUNPT = 81F-400-1412 TAPE = X1412F TEST PT NO = 1412 NC = 862 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-1412 X14121

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 68.3 71.3 71.7 71.4 70.8 72.5 73.2 74.6 76.3 78.1 84.9 89.7 89.4 81.6 163.0

63 69.1 71.6 72.0 71.6 72.5 73.2 74.6 76.3 78.1 84.9 89.7 89.4 81.6 163.7

80 69.3 72.9 72.3 72.6 73.6 74.1 75.6 76.7 78.0 84.9 89.7 89.4 81.6 163.7

100 70.3 73.0 73.0 72.6 73.6 74.1 75.6 76.7 78.0 84.9 89.7 89.4 81.6 163.2

125 75.3 78.2 79.0 75.6 75.4 75.9 76.2 76.6 76.9 80.9 84.8 88.1 83.7 78.3 162.1

160 82.6 81.8 77.2 76.0 76.7 76.4 76.7 76.4 76.7 81.0 84.9 86.4 81.4 76.9 161.9

200 87.2 89.7 85.7 82.5 90.0 84.3 78.8 78.1 81.2 85.3 84.5 79.1 75.9 165.5

250 85.5 87.6 89.9 91.4 87.0 87.3 82.1 78.5 82.1 85.0 82.9 78.2 74.8 166.4

315 83.4 86.0 85.9 85.7 83.2 84.3 85.2 81.2 82.2 83.7 82.5 76.3 73.1 164.4

400 80.5 82.8 82.5 83.1 81.2 82.2 82.1 82.0 83.1 82.9 80.9 75.5 72.6 162.9

500 79.9 81.5 80.9 80.6 81.0 81.3 81.9 81.8 83.3 81.8 79.2 73.7 70.5 162.4

630 78.1 80.1 81.4 81.3 81.8 81.3 79.9 80.3 82.1 81.3 77.9 73.2 69.3 162.2

800 77.2 80.4 81.1 81.6 82.3 81.8 79.5 80.5 80.2 76.3 71.3 67.8 162.3

1000 77.0 80.4 81.5 81.2 80.0 80.9 79.6 78.9 80.0 78.7 75.5 70.0 66.4 162.3

1250 74.9 78.9 80.2 79.8 81.0 80.7 78.5 78.2 78.6 76.8 73.3 68.2 63.0 162.0

1600 74.4 79.4 79.8 79.1 79.5 77.2 76.5 78.1 74.5 70.2 65.7 60.2 162.1

2000 71.0 74.6 76.6 76.5 77.2 75.5 75.8 76.0 71.7 67.3 62.6 57.5 46.3 160.7

2500 65.8 71.8 73.7 73.8 73.9 74.6 73.5 72.1 71.7 67.3 62.6 57.5 46.3 160.2

3150 59.5 64.9 68.3 69.2 69.9 71.5 70.0 67.5 67.6 62.1 57.4 50.2 35.6 160.2

4000 48.2 56.6 60.3 61.0 62.6 64.1 63.0 61.7 61.4 53.0 49.1 38.5 18.2 159.6

5000 33.3 44.4 49.0 51.2 54.4 56.0 54.6 53.0 51.5 41.6 35.5 21.4 159.7

6300 10.6 25.0 33.1 36.6 40.1 42.0 40.5 37.1 35.8 23.2 13.4 160.7

8000 7.5 12.8 18.8 19.8 17.8 12.6 7.8

10000 160.7

12500 161.7

16000 160.7

20000 160.7

25000 160.7

31500 160.7

40000 160.7

50000 160.7

63000 160.7

80000 160.7

CASPL 92.6 94.8 94.7 94.9 94.6 93.6 91.8 91.1 93.2 95.6 97.5 95.3 88.6 176.4

PNLT 97.9 101.1 102.3 103.1 102.1 101.4 99.5 98.4 100.3 99.4 98.5 94.7 88.7

DBA 86.7 89.4 90.2 90.4 90.0 90.0 88.4 87.8 89.0 88.2 85.9 80.9 76.8

MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH083 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4

IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 85.00 PAMB HG = 29.74 RELHUM = 41.6 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR = 400. FPS

FNINI = LBS XNLR = RPM XNHR = RPM V8 = 1713.9 FPS AEB = 25.3 SQ IN

FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 1713.9 FPS AEB = 25.3 SQ IN

RUNPT = 400-1412 TAPE = X14121 TEST PT NO = 1412 NC = 862 CORR FAN SPEED = RPM

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-1413 X1413C
BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL |
|---|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 85.7 | 81.5 | 80.5 | 84.3 | 85.1 | 85.7 | 85.4 | 86.0 | 78.2 | 85.6 | 94.9 | 94.1 | 95.0 | 130.3 |
| 63 | 90.5 | 85.5 | 86.0 | 89.8 | 90.9 | 92.3 | 91.7 | 91.1 | 92.3 | 91.9 | 99.5 | 98.4 | 99.1 | 135.4 |
| 80 | 89.0 | 83.3 | 88.3 | 89.1 | 90.0 | 92.3 | 93.2 | 92.4 | 92.3 | 93.4 | 94.8 | 96.7 | 98.9 | 134.9 |
| 100 | 88.3 | 82.6 | 88.6 | 89.9 | 91.0 | 92.6 | 93.0 | 94.9 | 93.5 | 94.7 | 97.1 | 100.8 | 102.7 | 136.9 |
| 125 | 87.1 | 89.1 | 90.9 | 87.1 | 92.8 | 94.4 | 94.0 | 93.4 | 93.0 | 96.2 | 102.1 | 105.0 | 107.5 | 139.9 |
| 160 | 86.0 | 83.3 | 87.6 | 87.1 | 89.0 | 89.8 | 91.2 | 91.6 | 92.1 | 96.4 | 101.8 | 105.7 | 109.1 | 140.2 |
| 200 | 84.8 | 87.8 | 88.1 | 88.6 | 90.5 | 92.6 | 93.2 | 95.6 | 97.0 | 98.9 | 104.5 | 109.5 | 112.1 | 143.4 |
| 250 | 86.3 | 92.3 | 90.1 | 92.7 | 94.8 | 97.0 | 97.9 | 98.6 | 104.4 | 110.3 | 114.2 | 115.1 | 117.5 | 147.5 |
| 315 | 87.6 | 90.9 | 90.1 | 92.4 | 93.8 | 96.1 | 97.3 | 99.7 | 102.5 | 107.7 | 112.3 | 115.8 | 117.2 | 149.4 |
| 400 | 88.6 | 91.4 | 92.1 | 91.4 | 92.8 | 95.6 | 97.3 | 99.7 | 103.6 | 111.2 | 115.3 | 118.3 | 117.7 | 151.5 |
| 500 | 89.7 | 93.1 | 93.6 | 93.9 | 95.5 | 96.6 | 97.9 | 100.5 | 103.7 | 111.6 | 117.0 | 119.9 | 118.8 | 152.9 |
| 630 | 90.8 | 93.1 | 93.6 | 93.9 | 95.5 | 96.6 | 97.9 | 100.5 | 103.7 | 111.6 | 117.0 | 119.9 | 118.8 | 152.9 |
| 800 | 97.2 | 94.2 | 94.5 | 95.5 | 97.1 | 98.2 | 99.1 | 101.8 | 105.4 | 111.8 | 117.2 | 119.9 | 118.3 | 152.9 |
| 1000 | 109.2 | 103.7 | 101.3 | 102.0 | 102.4 | 102.8 | 102.1 | 102.8 | 106.1 | 111.6 | 117.7 | 121.4 | 121.8 | 154.8 |
| 1250 | 105.2 | 106.5 | 103.8 | 102.1 | 102.5 | 101.9 | 103.2 | 106.2 | 111.4 | 116.0 | 121.2 | 125.8 | 126.2 | 152.8 |
| 1600 | 106.5 | 106.3 | 105.8 | 104.9 | 102.8 | 103.0 | 104.2 | 105.8 | 111.0 | 118.4 | 125.9 | 127.2 | 127.2 | 152.3 |
| 2000 | 105.2 | 105.6 | 105.2 | 106.1 | 108.9 | 110.3 | 103.4 | 103.6 | 105.8 | 111.9 | 113.0 | 116.6 | 115.1 | 151.9 |
| 2500 | 103.6 | 104.2 | 103.7 | 103.5 | 104.1 | 105.4 | 106.5 | 104.7 | 105.8 | 110.8 | 112.2 | 113.7 | 111.0 | 149.7 |
| 3150 | 103.2 | 104.1 | 103.3 | 102.8 | 103.7 | 104.7 | 105.1 | 105.8 | 106.2 | 109.6 | 112.2 | 113.0 | 111.0 | 147.9 |
| 4000 | 101.5 | 102.7 | 102.8 | 102.6 | 103.8 | 104.5 | 106.3 | 106.3 | 106.3 | 108.5 | 110.2 | 112.4 | 109.6 | 148.7 |
| 5000 | 100.4 | 102.5 | 102.3 | 102.3 | 102.7 | 102.4 | 103.3 | 104.3 | 105.4 | 107.6 | 109.1 | 110.9 | 107.7 | 147.9 |
| 6300 | 99.8 | 101.8 | 101.7 | 102.0 | 102.6 | 103.4 | 102.8 | 104.3 | 106.3 | 108.0 | 109.5 | 106.6 | 104.7 | 147.5 |
| 8000 | 98.0 | 100.6 | 101.1 | 100.8 | 102.0 | 102.8 | 102.7 | 103.6 | 104.6 | 105.5 | 108.2 | 105.2 | 104.6 | 146.6 |
| 10000 | 97.1 | 99.0 | 100.3 | 100.8 | 102.0 | 102.8 | 101.9 | 103.0 | 103.8 | 104.5 | 104.7 | 106.4 | 105.3 | 146.4 |
| 12500 | 95.9 | 98.6 | 98.9 | 98.9 | 100.2 | 100.9 | 101.4 | 101.6 | 102.0 | 103.0 | 104.7 | 102.5 | 101.5 | 145.5 |
| 16000 | 93.2 | 95.8 | 96.6 | 96.4 | 98.2 | 99.4 | 99.3 | 100.6 | 100.0 | 99.9 | 100.2 | 101.2 | 100.7 | 144.8 |
| 20000 | 91.0 | 92.7 | 94.1 | 94.4 | 96.1 | 97.4 | 97.5 | 97.6 | 98.2 | 97.1 | 97.3 | 99.6 | 98.0 | 144.3 |
| 25000 | 87.4 | 90.0 | 90.5 | 90.6 | 92.9 | 95.8 | 95.5 | 94.5 | 94.5 | 94.5 | 97.7 | 94.8 | 94.1 | 144.1 |
| 31500 | 82.6 | 86.0 | 87.0 | 87.6 | 89.4 | 92.2 | 91.8 | 91.8 | 92.2 | 91.5 | 91.4 | 94.0 | 89.8 | 143.7 |
| 40000 | 78.4 | 82.0 | 83.6 | 84.0 | 86.6 | 88.0 | 88.1 | 88.0 | 89.6 | 88.6 | 88.9 | 92.3 | 87.7 | 144.5 |
| 50000 | 74.0 | 76.8 | 78.5 | 79.2 | 81.4 | 84.4 | 84.0 | 83.2 | 85.7 | 82.7 | 84.9 | 89.0 | 83.3 | 144.8 |
| 63000 | 69.7 | 71.8 | 73.6 | 75.8 | 77.9 | 79.6 | 79.6 | 78.5 | 82.1 | 77.9 | 82.3 | 86.1 | 77.3 | 146.2 |
| 80000 | 66.5 | 66.9 | 68.0 | 70.8 | 72.7 | 74.1 | 73.9 | 71.8 | 75.5 | 72.3 | 77.5 | 81.4 | 73.4 | 147.7 |
| QASPL | 114.8 | 114.6 | 114.2 | 114.2 | 115.2 | 116.1 | 115.3 | 116.2 | 117.7 | 122.5 | 126.6 | 128.9 | 164.1 | |
| PNL | 126.4 | 127.1 | 126.6 | 126.7 | 127.2 | 129.3 | 128.5 | 129.4 | 130.4 | 134.3 | 137.3 | 140.1 | 138.5 | |
| DBA | 115.2 | 114.9 | 114.4 | 114.4 | 115.3 | 116.0 | 114.9 | 115.8 | 117.3 | 121.9 | 125.7 | 128.7 | 127.7 | |
| NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514 | | | | | | | | | | | | | | |
| VEHICL | ADH057 TEST DATE = 08-20-81 | | | | | | | | | | | | | |
| IAPLHA | = SB59 | | | | | | | | | | | | | |
| WIND DIR | DEG WIND YEL = NO MPH | | | | | | | | | | | | | |
| FNIN1 | LBS XNL RPM XNH RPM = | | | | | | | | | | | | | |
| FNRAMB | = | | | | | | | | | | | | | |
| TEST DATE | = 08-20-81 | | | | | | | | | | | | | |
| LOCAL | = C41 ANECH CH | | | | | | | | | | | | | |
| CONF1G | = 4 | | | | | | | | | | | | | |
| TAMB F | = 68.50 | | | | | | | | | | | | | |
| EXT CNF1G | = ARC | | | | | | | | | | | | | |
| MIKE HT | = | | | | | | | | | | | | | |
| PAMB HG | = 29.62 | | | | | | | | | | | | | |
| RELHUM | = 61.2 PCT | | | | | | | | | | | | | |
| FLTVEL | = 4 | | | | | | | | | | | | | |
| AE8 | = 1720.4 FPS | | | | | | | | | | | | | |
| AE18 | = | | | | | | | | | | | | | |
| VR | = | | | | | | | | | | | | | |
| NC | = 862 | | | | | | | | | | | | | |
| CORR FAN SPEED | = | | | | | | | | | | | | | |
| RPM | = | | | | | | | | | | | | | |
| TEST PT NO | = 1413 | | | | | | | | | | | | | |
| TAPE | = X1413C | | | | | | | | | | | | | |
| 81F-ZER-1413 | RUNPT = | | | | | | | | | | | | | |

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - BIF-ZER-1413 X1413F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.
PWL

50 85.7 81.5 80.5 84.3 85.1 85.7 85.4 86.0 78.2 85.6 94.9 94.1 95.0 130.3
63 90.5 85.5 86.0 89.8 90.9 92.3 91.7 91.1 92.3 91.9 99.5 98.4 99.1 135.4
80 89.0 93.3 88.3 89.1 90.0 92.3 93.2 92.4 92.8 93.4 94.8 94.9 94.9 134.9
100 88.3 92.6 88.6 89.9 91.0 92.6 93.0 93.0 93.0 93.5 94.7 97.1 100.8 102.7 136.9
125 87.1 89.1 90.9 91.9 92.8 94.4 94.0 93.4 93.0 96.2 102.1 105.0 107.5 139.9
150 86.0 83.3 87.6 87.1 89.0 89.8 91.2 91.6 92.1 96.4 101.8 105.7 109.1 140.2
200 84.8 88.1 90.5 92.6 93.2 97.0 97.9 98.6 104.4 110.3 114.2 115.1 147.5
250 86.3 92.3 90.3 90.1 92.7 94.8 97.0 97.9 98.6 104.4 110.3 114.2 147.5
315 87.6 90.9 90.1 92.4 93.8 96.1 97.3 99.7 102.5 107.7 112.3 115.8 149.4
400 88.6 91.4 92.1 92.8 95.6 97.3 99.7 103.6 111.2 115.3 118.3 117.7 151.5
500 89.7 93.2 92.0 92.3 94.1 96.7 97.9 100.5 103.7 111.8 117.0 119.9 152.9
630 90.8 93.1 93.6 95.5 97.1 98.2 99.1 101.8 105.4 111.6 117.2 119.9 152.9
800 97.2 94.2 94.5 95.5 97.1 98.2 99.1 101.8 105.4 111.6 117.2 119.9 152.9
1000 109.2 103.7 102.0 102.8 102.1 102.8 102.1 102.8 102.1 102.8 102.1 102.8 154.8
1250 105.2 106.5 103.8 102.1 102.2 102.5 103.3 106.2 111.4 116.0 119.2 118.2 152.8
1500 106.5 105.3 106.3 104.9 102.8 103.0 104.2 105.8 111.0 114.9 118.4 117.2 152.3
2000 105.2 106.1 106.9 110.3 103.4 103.6 105.8 111.9 113.0 116.6 115.1 151.9
2500 103.6 104.2 103.7 103.5 104.1 105.4 106.5 104.7 105.5 110.8 112.2 116.0 150.6
3150 103.2 104.1 103.3 102.8 103.7 104.7 105.1 105.8 106.2 109.6 112.2 113.7 149.7
4000 101.5 102.7 102.8 102.6 103.8 104.5 106.3 106.3 106.3 108.5 112.4 109.6 148.7
5000 100.4 102.3 102.3 102.4 103.4 104.4 106.4 106.4 106.4 109.1 110.9 107.7 147.9
6300 99.8 101.8 101.7 102.0 103.4 104.3 106.3 106.3 106.3 108.0 109.5 106.6 147.5
8000 98.0 100.6 100.6 100.8 102.0 102.8 102.7 103.6 104.6 105.5 105.6 108.2 146.6
10000 97.1 99.0 100.3 100.6 102.8 102.8 101.9 103.0 104.7 106.4 105.3 146.4
12500 95.9 97.1 98.6 98.9 100.2 102.1 100.9 101.4 101.6 102.0 103.0 104.7 145.5
15000 93.2 95.8 96.6 96.4 98.2 99.4 99.3 100.6 100.6 99.9 100.2 101.2 144.8
20000 91.0 92.7 94.1 94.4 96.1 97.4 97.5 97.6 98.2 97.1 97.3 99.6 144.3
25000 87.4 90.0 90.5 92.9 93.8 94.5 95.8 96.9 97.7 94.9 97.7 94.8 144.1
31500 82.6 86.0 87.0 87.6 89.4 92.2 91.9 91.8 92.2 91.5 91.4 94.0 143.7
40000 78.4 82.0 83.6 84.0 86.6 88.0 88.1 88.0 89.6 86.6 88.9 92.3 144.5
50000 74.0 76.8 78.5 79.2 81.4 84.4 84.0 83.2 85.7 82.7 84.9 89.0 144.8
63000 69.7 71.8 73.6 75.8 77.9 79.3 79.6 78.5 82.1 77.9 82.3 86.1 146.2
80000 66.5 68.9 68.0 70.8 72.7 74.1 73.9 71.8 75.5 72.3 77.5 81.4 147.7

QASPL 114.8 114.6 114.2 114.2 115.2 116.1 115.3 116.2 117.7 122.5 126.6 129.6 128.9 164.1
PNLT 129.3 128.3 126.7 127.2 129.7 131.3 128.5 129.4 130.4 134.3 137.3 140.1 139.7
DBA 187.6 188.5 189.8 192.3 194.3 195.8 195.7 194.0 197.5 194.1 198.9 202.7 194.8

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH057 TEST DATE = 08-20-81 LOCAT = C41 ANECH CH CNFIO = 4 MODEL = 4 FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 68.50 PAMB HG = 29.62 RELHUM = 61.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIO = ARC MIKE HT = NBFR

FNINI = LBS XNL RPM XNHR XNH RPM = V8 = 1720.4 FPS AEB = 25.3 SO IN
FNRAMB = LBS XNL RPM XNHR XNH RPM = V8 = 1720.4 FPS AEB = 25.3 SO IN

RUNPT = ZER-1413 TAPE = X1413F TEST PT NO = 1413 NC = 862 CORR FAN SPEED = RPM

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OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-1413 X14131

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

| | | | | | | | | | | | | | |
|-------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 50 | 66.6 | 70.9 | 72.7 | 74.5 | 77.5 | 79.0 | 81.0 | 84.2 | 90.7 | 93.3 | 94.1 | 90.1 | 168.9 |
| 63 | 67.7 | 72.7 | 72.6 | 75.8 | 78.6 | 79.6 | 81.9 | 84.3 | 91.3 | 94.9 | 95.6 | 91.2 | 170.3 |
| 80 | 68.7 | 72.6 | 74.2 | 77.2 | 78.4 | 80.2 | 81.9 | 83.2 | 91.9 | 96.2 | 95.9 | 91.4 | 171.0 |
| 100 | 75.0 | 73.6 | 75.0 | 76.7 | 78.8 | 80.0 | 80.8 | 83.0 | 91.2 | 95.0 | 95.5 | 90.4 | 170.4 |
| 125 | 86.9 | 83.0 | 81.7 | 83.2 | 83.9 | 84.4 | 83.7 | 83.9 | 86.5 | 90.9 | 95.4 | 93.7 | 172.2 |
| 160 | 82.7 | 85.7 | 84.0 | 83.1 | 83.6 | 84.1 | 83.3 | 84.3 | 86.4 | 90.5 | 93.5 | 94.3 | 170.2 |
| 200 | 83.8 | 84.2 | 86.4 | 86.7 | 86.2 | 84.2 | 84.3 | 85.0 | 89.9 | 92.1 | 93.3 | 88.3 | 169.8 |
| 250 | 82.1 | 84.2 | 85.1 | 86.7 | 90.0 | 91.5 | 84.5 | 84.2 | 85.6 | 90.6 | 90.0 | 85.5 | 169.3 |
| 315 | 80.2 | 83.8 | 83.3 | 86.4 | 86.9 | 87.3 | 85.1 | 85.0 | 89.1 | 88.7 | 89.9 | 83.1 | 168.0 |
| 400 | 79.3 | 82.0 | 82.5 | 82.9 | 84.2 | 85.6 | 85.9 | 85.4 | 87.5 | 88.3 | 86.9 | 79.7 | 167.1 |
| 500 | 77.0 | 80.3 | 81.6 | 82.5 | 82.8 | 84.7 | 86.0 | 85.2 | 86.0 | 85.8 | 85.0 | 77.2 | 166.1 |
| 630 | 75.5 | 79.6 | 80.8 | 81.7 | 82.7 | 83.3 | 84.8 | 84.9 | 84.7 | 84.1 | 82.8 | 74.3 | 165.3 |
| 800 | 74.4 | 78.6 | 79.9 | 81.1 | 82.4 | 83.2 | 83.5 | 84.6 | 83.5 | 82.6 | 80.7 | 72.1 | 164.9 |
| 1000 | 72.1 | 77.1 | 79.2 | 81.6 | 82.6 | 82.3 | 82.6 | 81.9 | 79.7 | 78.7 | 69.5 | 164.1 | |
| 1250 | 70.7 | 75.1 | 78.1 | 79.6 | 81.5 | 81.3 | 81.6 | 80.6 | 78.3 | 76.1 | 68.1 | 163.9 | |
| 1600 | 68.7 | 72.6 | 76.0 | 77.4 | 79.3 | 80.0 | 79.9 | 78.9 | 77.5 | 75.8 | 73.0 | 62.9 | 163.0 |
| 2000 | 64.9 | 70.8 | 73.5 | 74.6 | 77.2 | 78.7 | 78.3 | 76.9 | 74.8 | 72.0 | 68.0 | 58.2 | 162.2 |
| 2500 | 61.0 | 66.4 | 70.2 | 72.0 | 74.6 | 76.1 | 76.0 | 75.2 | 74.3 | 70.8 | 67.3 | 63.5 | 161.7 |
| 3150 | 54.0 | 61.3 | 64.7 | 66.6 | 70.0 | 73.1 | 72.6 | 70.5 | 70.1 | 65.8 | 61.5 | 56.7 | 161.5 |
| 4000 | 43.0 | 52.5 | 57.4 | 60.4 | 63.4 | 66.7 | 65.9 | 64.6 | 62.6 | 58.0 | 51.8 | 44.1 | 161.2 |
| 5000 | 29.0 | 40.9 | 47.8 | 51.3 | 55.7 | 57.6 | 57.2 | 55.4 | 53.8 | 45.6 | 39.5 | 28.6 | 161.9 |
| 6300 | 6.8 | 21.5 | 30.6 | 35.7 | 40.4 | 44.2 | 42.9 | 39.7 | 37.8 | 27.4 | 17.7 | 1.2 | 162.2 |
| 8000 | | 4.4 | 13.1 | 18.8 | 21.3 | 20.5 | 15.8 | 12.8 | | | | | 163.6 |
| 10000 | | | | | | | | | | | | | 165.1 |

ORIGINAL PAGE 3
OF POOR QUALITY

MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH057 TEST DATE = 08-20-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 0. FPS
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 68.50 PAMB HG = 29.62 RELHUM = 61.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR

FNINI = LBS XNL = RPM XNH XNHR = RPM V8 = 1720.4 FPS AE8 = 25.3 SQ IN
FNAMB = LBS XNLR = RPM XNHR = RPM V18 = FPS AE18 = 0. SQ IN

RUNPT = 81F-ZER-1413 TAPE = X14131 TEST PT NO = 1413 NC = 862 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL B1F-400-1414 X1414C
BACKGROUND B1F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 86.4 85.0 81.5 80.3 80.4 81.5 81.4 82.8 85.4 97.8 92.2 91.1 96.8 131.7

63 86.2 86.8 84.8 85.9 87.0 86.7 86.8 89.6 89.6 108.6 91.5 91.2 97.6 139.9

80 88.3 92.8 87.6 88.2 90.6 91.7 90.9 91.5 92.7 92.8 96.0 98.6 133.9

100 87.6 87.6 88.2 89.2 89.9 91.0 92.2 91.8 91.2 91.0 93.7 99.6 135.0

125 85.4 87.6 88.2 89.2 91.8 92.2 91.8 91.0 93.7 99.6 103.3 105.5 137.8

150 83.3 81.8 85.8 85.4 86.6 88.0 88.1 89.1 93.9 100.3 104.0 107.1 138.2

175 83.8 83.1 84.3 86.1 86.0 88.3 89.2 91.6 94.3 95.7 101.3 106.5 140.3

200 83.0 86.1 85.6 86.6 87.2 89.3 91.5 93.9 95.3 100.7 106.8 111.7 143.8

225 82.3 85.9 86.1 86.9 87.8 89.9 91.9 93.3 96.2 104.7 109.8 113.0 146.0

250 84.6 85.6 86.4 87.2 87.3 89.9 90.9 92.8 95.4 100.9 107.0 112.1 147.4

275 84.2 87.5 87.3 88.3 88.9 91.0 93.4 96.8 100.5 107.6 113.0 114.6 147.5

300 85.6 87.9 87.9 89.0 91.4 93.0 95.7 98.9 107.2 113.3 113.3 103.2 146.8

325 94.0 95.5 96.0 93.1 97.4 94.5 95.6 100.1 101.9 108.3 113.0 110.9 146.6

350 99.7 98.3 94.0 92.8 92.4 94.0 95.2 97.6 101.4 106.9 111.7 107.7 145.1

375 99.7 98.3 94.0 92.8 92.4 94.0 95.2 97.6 101.4 106.9 111.7 107.7 145.1

400 99.4 100.6 100.6 100.6 103.0 105.6 102.2 99.4 101.8 106.9 107.5 100.9 145.3

425 99.4 100.6 100.6 100.6 103.0 105.6 102.2 99.4 101.8 106.9 107.5 100.9 145.3

450 98.7 99.5 98.7 99.3 98.6 98.6 100.3 100.7 103.1 102.9 105.7 98.2 143.8

475 98.2 99.5 98.2 99.3 98.6 98.6 99.0 98.3 103.7 103.8 102.1 96.1 142.7

500 98.1 100.1 98.5 98.7 98.9 99.1 98.9 100.1 102.4 103.0 101.3 95.8 142.6

525 96.5 98.6 98.7 98.0 97.5 98.6 98.7 99.1 100.6 101.5 98.8 94.2 141.6

550 95.8 96.8 97.1 96.3 97.8 98.3 97.6 98.7 99.6 99.5 98.0 92.9 141.6

575 93.9 95.4 96.1 95.9 96.9 97.9 97.1 96.9 97.6 97.0 96.0 91.7 140.9

600 90.7 93.4 93.3 93.4 94.0 96.0 95.3 96.4 96.2 94.4 93.2 89.3 140.2

625 88.3 90.7 91.2 90.7 93.5 93.3 93.4 93.7 91.9 90.6 86.6 81.3 139.4

650 84.3 86.0 86.2 86.0 89.1 90.9 91.7 90.9 91.3 88.5 84.9 77.4 139.2

675 79.5 83.2 83.0 84.0 84.7 87.6 87.7 88.0 88.1 84.5 83.9 80.7 138.7

700 74.5 78.5 78.5 79.6 80.1 81.3 83.6 84.0 84.4 81.9 79.5 81.4 139.0

725 70.8 74.4 74.3 75.9 76.8 80.0 80.1 79.9 81.1 76.0 76.9 73.6 139.2

750 65.0 72.6 71.2 72.4 73.1 75.3 75.8 74.8 76.7 71.4 73.6 69.5 140.4

775 61.7 72.8 69.9 67.6 69.0 70.9 70.5 68.6 71.4 66.8 68.0 65.4 143.0

800 110.4 111.9 111.3 111.6 111.7 112.0 111.4 112.3 114.1 118.6 121.9 121.8 158.4

QASPL 110.4 111.9 111.3 111.6 111.7 112.0 111.4 112.3 114.1 118.6 121.9 121.8 158.4

PWL 122.7 123.8 123.5 124.2 124.2 126.7 126.9 125.1 125.8 127.0 130.3 131.7 129.5 125.1

DBA 110.7 112.0 111.5 111.9 111.9 111.9 111.2 111.9 113.6 117.5 120.6 118.5 112.4

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICLE = ADH082 TEST DATE = 08-24-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 85.00 PAMB HG = 29.74 RELHUM = 41.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR
FNIN1 = LBS XNL RPM XNHR = RPM V8 = 1716.3 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1716.3 FPS AE18 = 0. SQ IN
RUNPT = F-400-1414 TAPE = X1414C TEST PT NO = 1414 NC = 862 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-1414 X1414F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

200
160
125
100
80
63
50

250 89.9 91.6 90.1 89.6 88.7 89.3 89.6 90.3 96.3 96.3 100.3 104.9 108.6 109.1 142.1
315 89.9 91.6 90.1 89.6 89.6 92.1 91.9 91.9 93.4 97.6 102.9 107.6 111.1 109.8 144.1
400 90.0 92.3 91.1 90.3 89.1 91.1 91.5 92.7 98.6 105.0 110.2 113.1 109.4 145.8
500 92.1 91.9 91.3 90.6 91.3 92.7 95.0 97.7 105.7 112.0 114.0 108.4 146.7
630 91.7 93.8 92.2 91.7 90.9 91.8 92.4 94.1 100.6 106.8 112.0 112.7 106.2 146.2
800 92.5 93.5 92.6 91.2 98.9 95.0 94.9 98.1 100.7 106.1 111.7 111.0 108.0 145.9
1000 99.0 99.7 99.4 95.5 94.2 94.7 94.6 95.9 100.7 106.0 110.6 108.2 106.4 144.9
1250 107.2 104.5 96.2 97.8 95.8 96.4 100.9 105.6 110.0 105.8 105.4 105.5 145.4
1500 110.1 111.7 106.8 103.1 109.6 104.3 98.5 97.9 101.7 106.7 108.0 104.9 148.9
2000 109.0 109.4 110.5 111.1 105.6 106.9 102.2 106.5 106.9 104.0 104.8 149.4
2500 107.1 107.1 105.8 104.9 101.2 103.3 105.1 101.8 103.4 105.4 106.7 104.0 147.0
3150 104.3 104.6 102.8 100.9 102.3 101.6 102.8 104.5 105.6 105.0 102.6 104.1 145.7
4000 104.8 105.0 102.6 101.9 101.4 100.7 102.8 105.2 105.0 103.8 103.3 103.3 145.5
5000 104.4 104.2 103.4 102.4 101.8 101.7 100.4 104.3 104.6 103.5 101.5 103.2 145.4
6300 103.2 104.3 102.5 102.6 102.1 101.1 103.2 103.8 101.9 100.7 102.7 145.4
8000 103.2 105.0 103.0 102.7 101.3 101.6 101.0 100.5 102.8 102.7 101.8 100.2 145.4
10000 101.9 103.8 102.0 101.8 102.3 100.1 100.4 101.4 100.9 100.6 99.6 100.9 145.4
12500 102.7 102.9 102.3 102.6 101.0 100.9 99.6 98.7 100.9 99.1 98.6 97.9 145.4
15000 100.2 101.0 100.8 99.6 98.0 97.0 97.8 98.3 98.8 97.1 96.5 95.8 144.7
20000 96.6 98.5 97.6 96.7 95.7 96.5 95.8 97.1 94.4 94.3 95.1 94.8 143.9
25000 93.6 94.6 93.9 93.1 93.9 94.2 92.9 94.4 90.9 91.2 91.6 91.6 143.4
31500 88.8 89.1 89.9 88.6 89.0 89.6 90.2 89.8 92.0 86.7 89.4 89.1 143.0
40000 83.2 86.1 85.0 85.3 86.6 86.5 86.3 88.4 83.3 85.1 85.5 84.4 142.9
50000 77.8 81.0 81.3 80.8 81.4 83.0 82.4 81.6 84.6 79.3 82.3 81.8 143.3
63000 76.0 76.3 76.8 77.2 78.3 78.2 76.4 80.6 75.9 77.8 76.8 144.5
80000 65.9 72.8 70.5 70.7 73.1 73.9 72.8 70.0 70.8 66.1 68.0 69.0 144.7

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QASPL 116.8 117.4 115.9 115.2 114.4 113.7 112.3 112.1 114.7 117.5 120.7 120.9 118.7 159.7
PNL 128.2 128.8 127.9 126.1 125.7 125.2 124.7 127.4 129.3 130.5 129.0 129.0
DBA 189.4 194.4 192.5 192.6 194.4 195.3 194.4 192.1 194.3 189.6 191.6 192.5 188.3

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ, SC-4/NAS3-22514

VEHICL = ADH082 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 400. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 85.00 PAMB HG = 29.74 RELHUM = 41.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 1716.3 FPS AE8 = 25.3 SQ IN
FNFRMB = LBS XNLR = RPM V8 = 1716.3 FPS AE18 = 0. SQ IN

RUNPT = 81F-400-1414 TAPE = X1414F TEST PT NO = 1414 NC = 662 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-1414 X14141

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 60.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

63 70.0 71.4 71.8 72.5 73.2 74.4 76.3 78.3 85.2 90.0 89.7 80.8 164.1

80 69.6 73.2 72.7 73.0 75.3 76.3 78.0 81.1 86.3 89.9 88.4 78.5 163.7

100 70.3 72.9 73.1 72.4 76.5 76.8 79.3 81.2 85.5 89.5 86.6 80.1 163.3

125 76.7 79.1 79.8 76.6 76.4 76.1 77.1 81.1 85.3 88.3 83.6 78.3 162.4

160 84.8 83.7 79.2 77.2 79.2 77.4 76.6 81.2 84.8 87.5 81.0 77.1 162.8

200 87.4 90.6 86.9 83.9 85.8 79.7 78.7 81.8 85.6 85.3 79.7 76.5 166.3

250 86.0 88.1 90.4 86.7 88.1 83.7 79.1 82.0 85.2 83.8 78.4 75.3 166.9

315 83.6 85.5 85.4 82.0 84.3 85.9 82.2 83.0 83.8 83.3 76.6 73.6 164.4

400 80.3 82.5 82.3 81.4 83.0 82.1 82.8 83.7 83.5 81.0 75.9 72.8 163.1

500 80.4 82.5 81.5 81.7 81.3 81.0 82.6 84.1 82.5 79.4 73.9 70.9 163.0

630 79.5 81.3 82.0 81.8 81.8 80.4 80.8 82.8 81.7 78.6 73.4 69.8 162.8

800 77.8 81.7 82.3 82.0 80.8 80.2 81.4 80.6 76.5 71.9 68.2 162.8

1000 77.4 81.5 81.0 81.7 80.9 81.4 80.6 79.5 80.8 79.1 76.0 70.7 162.9

1250 75.6 80.0 81.1 80.9 81.3 79.5 79.2 77.0 74.2 69.3 63.7 162.8

1600 75.4 79.6 81.0 80.3 78.7 77.2 78.2 74.6 71.4 66.3 60.2 162.8

2000 72.0 75.9 77.8 77.0 78.2 76.8 76.6 72.0 68.2 62.5 55.0 162.2

2500 66.6 72.3 73.7 74.3 74.2 75.1 74.2 73.0 68.7 62.2 57.9 160.9

3150 60.2 65.9 68.6 69.9 70.2 71.3 71.2 68.9 68.7 62.2 57.9 160.9

4000 49.2 57.8 60.5 62.7 62.9 65.1 64.2 62.6 62.3 53.2 49.8 160.5

5000 33.8 45.1 49.2 52.5 54.4 56.2 55.5 53.6 52.5 42.3 35.7 160.3

6300 10.6 25.8 33.4 37.4 40.4 42.8 41.4 38.1 36.7 24.0 15.1 160.7

8000 7.5 14.1 18.0 20.3 19.0 13.7 11.3

10000 161.9

12500 162.2

16000

20000

25000

31500

40000

50000

63000

80000

OASPL 93.2 95.5 95.1 95.3 95.0 94.3 92.6 91.8 93.7 95.8 97.8 95.5 88.6 176.9

PNL 97.9 101.1 101.6 102.1 101.5 101.1 99.8 99.2 100.0 99.7 99.0 94.9 88.9

DBA 87.2 90.2 90.5 90.9 90.3 90.6 89.3 88.6 89.6 88.6 86.4 81.3 77.2

MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH082 TEST DATE = 08-24-81

LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVL = 400. FPS

PWL AREA = FULL SPHERE TAMB F = 65.00 PAMB HG = 29.74 RELHUM = 41.6 PCT

WIND DIR = DEG WIND VEL = MPH

FNIN1 = LBS XNL RPM XNHR =

FNFRMB = LBS XNL RPM XNHR =

RUNPT # 6 00-1414 TAPE = X14141 TEST PT NG = 1414 NC = 862 CORR FAN SPEED = RPM

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UNCLASSIFIED PAGE PRINTING SYSTEM-PI188-02

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

ANGLES MEASURED FROM INLET, DEGREES

IDENTIFICATION - MODEL 81F-ZER-1415 X1415C
BACKGROUND 81F-400-0400

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.
PWL

50 83.2 82.5 80.5 80.3 84.4 85.2 85.1 85.0 87.7 97.1 89.9 94.1 93.3 131.3
63 85.5 85.3 84.8 89.3 91.0 91.4 90.8 92.3 107.1 92.0 98.4 97.6 139.2
80 88.3 93.1 87.8 88.6 89.5 91.3 92.7 91.6 92.3 92.9 93.8 96.2 97.9 134.3
100 89.1 92.8 88.6 90.4 91.0 91.9 93.0 94.4 92.8 93.9 96.8 100.8 101.9 136.5
125 86.4 89.1 89.9 90.7 91.3 93.2 93.3 92.7 93.0 95.7 101.4 104.5 106.5 139.2
160 85.8 83.3 87.6 87.1 88.2 89.6 91.5 91.1 91.8 95.9 101.5 106.0 108.4 139.9
200 84.8 87.8 88.6 88.1 90.0 92.3 92.7 95.1 97.5 98.9 104.3 109.5 111.6 143.1
250 86.0 92.3 90.3 90.6 92.0 93.6 96.5 97.4 98.8 104.1 109.8 114.0 114.9 147.2
315 88.1 91.4 90.4 92.4 93.5 95.4 97.5 99.2 102.0 107.7 112.6 116.3 116.2 149.4
400 88.8 92.6 92.9 91.9 92.8 95.6 97.3 99.7 103.6 111.0 116.1 119.0 117.7 152.0
500 89.9 93.7 92.5 92.8 94.1 95.8 98.1 100.3 104.0 111.6 117.7 120.9 119.0 153.5
630 91.3 93.6 93.1 94.2 95.2 96.6 98.5 100.4 103.2 111.7 118.3 120.5 118.9 153.5
800 98.2 95.2 95.5 95.8 96.9 98.0 99.9 101.5 105.6 111.8 117.5 119.6 118.1 152.9
1000 110.0 106.0 104.3 104.1 102.4 103.3 104.2 103.6 106.1 111.4 117.5 122.4 122.6 155.4
1250 105.7 107.0 104.5 103.1 101.9 101.5 102.7 103.1 106.7 111.1 115.4 117.4 115.2 152.5
1600 105.5 106.6 107.4 105.2 103.6 103.3 104.0 106.9 110.5 115.4 117.9 116.5 152.3
2000 105.2 105.3 104.7 106.4 110.0 111.6 106.0 103.4 106.3 111.7 113.3 116.6 115.1 152.2
2500 103.9 104.0 103.2 104.3 103.6 105.2 106.3 105.3 106.2 111.1 112.2 115.5 113.2 150.5
3150 103.8 103.6 103.4 102.9 104.5 104.9 105.6 106.4 109.5 112.5 113.4 111.3 149.7
4000 102.5 103.0 103.3 102.6 103.3 104.2 106.0 107.1 108.5 109.7 112.2 110.1 148.7
5000 100.9 103.0 103.0 102.8 102.4 102.6 103.0 105.1 107.1 107.8 109.8 110.3 107.9 148.1
6300 100.8 102.7 102.7 103.2 103.1 103.3 102.8 104.0 106.5 108.0 110.0 106.8 147.7
8000 98.9 100.8 101.0 101.9 101.7 103.0 103.3 104.3 106.8 108.8 110.4 104.4 146.5
10000 97.7 99.6 100.4 101.1 102.4 102.9 102.5 103.1 103.9 104.3 104.8 101.7 145.7
12500 96.2 98.1 99.1 99.1 100.4 101.7 101.4 100.9 102.5 102.5 103.3 104.4 101.7 145.7
16000 93.6 96.2 97.1 97.2 97.6 99.1 99.4 100.5 100.0 99.4 100.0 102.1 99.6 144.8
20000 91.3 92.9 94.5 94.8 95.1 96.9 97.3 97.6 97.9 96.5 97.7 100.1 96.6 144.1
25000 87.0 90.1 90.8 90.9 93.1 95.2 95.2 94.3 95.2 93.7 94.4 97.6 92.9 143.7
31500 82.0 86.3 87.1 87.5 89.2 91.6 91.7 91.7 92.2 90.2 91.2 93.7 88.2 143.4
40000 78.1 81.8 83.5 83.9 86.0 87.6 88.3 88.2 89.5 85.9 86.8 91.0 85.2 144.1
50000 73.9 77.4 79.6 81.0 84.0 84.3 83.6 83.4 86.0 86.0 86.9 82.4 82.4 145.1
63000 67.3 73.5 75.6 76.4 78.9 80.5 80.8 79.6 82.8 80.1 83.7 88.5 78.9 147.7
80000 61.8 71.1 73.0 72.4 75.4 76.3 76.4 75.2 79.2 75.1 79.6 83.7 73.6 150.3

QASPL 115.3 115.1 114.6 115.0 115.3 116.3 115.6 116.1 118.1 122.5 126.8 129.8 128.8 164.3
PNLT 129.8 129.1 128.7 130.4 128.6 129.8 128.6 129.2 130.9 134.5 137.4 141.0 139.9
DBA 115.7 115.4 114.8 115.2 115.5 116.5 115.4 115.7 117.8 121.8 125.9 128.9 127.7

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH060 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 80.00 MIKE HT = 29.71 RELHUM = 57.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC

FNINI = LBS XNLR = RPM XNH = RPM V8 = 1712.5 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 1712.5 FPS AE8 = 25.3 SQ IN
CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - BIF-ZER-1415 X1415F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 63.2 62.5 60.5 60.3 64.4 65.2 65.1 65.0 67.7 97.1 89.9 94.1 93.3 131.3

63 65.5 65.3 64.8 69.9 91.0 91.4 90.8 92.3 107.1 92.0 98.4 97.6 139.2

80 68.3 93.1 87.8 88.6 89.5 91.3 92.7 91.6 92.3 92.9 93.8 94.3

100 69.1 92.8 88.6 90.4 91.0 91.9 93.0 94.4 92.8 93.9 96.8 101.9 136.5

125 66.4 89.1 89.9 90.7 91.3 93.2 93.3 92.7 93.0 95.7 101.4 106.5 139.2

160 65.8 83.3 87.6 87.1 88.2 89.6 91.5 91.1 91.8 95.9 101.5 108.4 139.9

200 64.8 87.8 88.6 88.1 90.0 92.3 92.7 95.1 97.5 98.9 104.3 109.5 143.1

250 66.0 92.3 90.3 90.6 92.0 93.6 96.5 97.4 98.8 104.1 109.8 114.0 147.2

315 68.1 91.4 90.4 92.4 93.5 95.4 97.5 99.2 102.0 107.7 112.6 116.3 149.4

400 68.8 92.6 92.9 91.9 92.8 95.6 97.3 99.7 103.6 111.0 116.1 119.0 152.0

500 69.9 93.7 92.5 92.8 94.1 95.8 98.1 100.3 104.0 111.6 117.7 120.9 153.5

630 91.3 93.6 93.1 94.2 95.2 96.6 98.5 100.4 103.2 111.7 118.3 120.5 153.5

800 95.2 95.5 95.8 96.9 98.0 99.9 101.5 105.6 111.6 117.5 119.6 122.4 152.9

1000 110.0 106.0 104.3 104.1 102.4 103.3 104.2 103.6 106.1 111.4 117.5 122.4 152.4

1250 105.7 107.0 104.5 103.1 101.9 101.5 102.7 103.1 106.7 111.1 115.7 118.7 152.5

1600 106.5 105.6 106.6 107.4 105.2 103.6 103.3 104.0 106.9 110.5 115.4 117.9 152.3

2000 105.2 105.3 104.7 106.4 110.0 111.6 106.0 103.4 106.3 111.7 113.3 116.1 152.2

2500 103.9 104.0 103.2 104.3 103.6 105.2 106.3 105.3 106.2 111.1 112.2 115.5 150.5

3150 103.8 104.3 103.6 103.4 102.9 104.5 104.9 105.6 106.4 109.9 112.5 113.4 149.7

4000 102.5 103.0 102.6 102.6 102.6 103.3 104.2 106.0 107.1 108.5 109.7 112.2 148.7

5000 100.9 103.0 102.8 102.4 102.6 103.0 103.0 104.0 105.1 107.8 109.8 110.1 148.1

6300 100.8 102.7 102.7 103.2 103.1 103.3 102.8 104.0 106.5 106.9 108.0 110.0 147.7

8000 98.9 100.8 101.0 101.9 101.7 103.0 103.1 103.3 105.0 106.1 105.7 107.6 146.8

10000 97.7 99.6 100.4 101.1 102.9 102.5 103.1 103.9 104.3 104.8 106.8 104.4 146.5

12500 96.2 98.1 99.1 99.1 100.4 101.7 101.4 100.9 102.5 102.5 103.3 104.4 145.7

16000 93.6 96.2 97.1 97.2 97.6 99.1 99.7 100.5 100.0 99.4 100.0 102.1 144.8

20000 91.3 92.9 94.5 94.8 95.1 96.9 97.3 97.6 97.9 96.5 97.7 100.1 144.1

25000 87.0 90.1 90.8 90.9 93.1 95.2 95.2 94.3 94.7 93.7 94.4 97.6 143.7

31500 82.0 86.3 87.1 87.5 89.2 91.6 91.7 91.7 92.2 90.2 91.2 93.7 143.4

40000 78.1 81.8 83.5 83.9 86.0 87.6 88.3 88.2 89.5 85.9 86.8 91.0 144.1

50000 73.9 77.4 79.6 81.0 84.0 84.3 83.6 83.6 85.9 83.4 86.0 89.9 145.1

63000 67.3 73.5 75.6 76.4 78.9 80.5 80.8 79.6 82.8 80.1 83.7 88.5 147.7

80000 61.8 71.1 73.0 72.4 75.4 76.3 76.4 75.2 79.2 75.1 79.6 83.7 150.3

GASPL 115.3 115.1 114.6 115.0 115.3 116.3 115.6 116.1 118.1 122.5 126.8 129.8 164.3

PWL 126.8 127.5 127.0 127.1 128.6 129.8 128.6 129.2 130.9 134.5 137.4 139.9 138.3

PWLT 129.8 129.1 128.4 128.7 130.4 132.2 128.6 129.2 130.9 134.5 137.4 141.0 139.9

DBA 183.8 192.0 193.9 193.6 196.5 197.6 197.7 196.5 200.3 196.6 200.8 205.0 195.2

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH060 TEST DATE = 08-24-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLVEL = 0. FPS

IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.71 RELHUM = 57.6 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = 0. NBFR =

FNINI = LBS XNLR = RPM XNHR = RPM V8 = 1712.5 FPS AE8 = 25.3 SQ IN

FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 1712.5 FPS AE8 = 25.3 SQ IN

R-1415 TAPE = X1415F TEST PT NO = 1415 NC = 862 CORR FAN SPEED = RPM

RUNPT = 81

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-1415 X14151

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|---|---|-----------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 50 | 66.8 | 72.1 | 73.5 | 73.2 | 74.5 | 77.5 | 79.0 | 81.0 | 84.2 | 90.5 | 94.1 | 94.8 | 90.1 |
| 63 | 67.9 | 73.2 | 73.1 | 74.1 | 75.8 | 77.6 | 79.8 | 81.7 | 84.6 | 91.1 | 95.7 | 96.6 | 91.4 |
| 80 | 69.2 | 73.1 | 73.7 | 75.4 | 76.9 | 78.4 | 80.2 | 81.7 | 83.7 | 91.2 | 96.2 | 96.2 | 91.2 |
| 100 | 76.0 | 74.6 | 76.0 | 77.0 | 78.5 | 79.8 | 81.5 | 82.8 | 86.1 | 91.2 | 95.3 | 95.2 | 90.2 |
| 125 | 87.7 | 85.3 | 84.7 | 85.2 | 84.0 | 85.0 | 85.7 | 84.7 | 86.5 | 90.7 | 95.2 | 97.8 | 94.5 |
| 160 | 83.3 | 86.2 | 84.8 | 84.1 | 83.4 | 83.1 | 84.1 | 84.1 | 87.0 | 90.3 | 93.3 | 93.9 | 89.0 |
| 200 | 83.8 | 84.5 | 86.7 | 86.2 | 86.5 | 85.0 | 84.6 | 84.8 | 86.9 | 89.4 | 92.7 | 92.8 | 87.5 |
| 250 | 82.1 | 84.0 | 84.6 | 87.0 | 91.0 | 92.8 | 87.0 | 84.0 | 86.1 | 90.3 | 90.2 | 91.0 | 85.5 |
| 315 | 80.4 | 82.3 | 82.8 | 84.6 | 86.2 | 87.1 | 85.6 | 85.6 | 85.6 | 87.8 | 88.5 | 86.7 | 79.9 |
| 400 | 79.8 | 82.2 | 82.8 | 83.4 | 83.4 | 85.2 | 85.4 | 85.6 | 85.6 | 87.8 | 88.5 | 86.7 | 79.9 |
| 500 | 78.0 | 80.5 | 82.1 | 83.0 | 82.8 | 83.7 | 84.4 | 85.8 | 85.9 | 86.0 | 85.3 | 84.7 | 77.7 |
| 630 | 76.0 | 80.1 | 81.5 | 82.2 | 82.4 | 82.8 | 83.0 | 84.5 | 85.7 | 84.9 | 84.8 | 82.2 | 74.5 |
| 800 | 73.0 | 77.2 | 79.0 | 80.9 | 81.3 | 82.8 | 82.7 | 82.3 | 83.0 | 82.6 | 79.9 | 78.1 | 69.9 |
| 1000 | 73.0 | 77.2 | 79.0 | 80.9 | 81.3 | 82.8 | 82.7 | 82.3 | 83.0 | 82.6 | 79.9 | 78.1 | 69.9 |
| 1250 | 71.3 | 75.7 | 78.1 | 80.0 | 81.8 | 82.5 | 81.9 | 81.7 | 80.4 | 77.9 | 76.5 | 67.2 | 64.0 |
| 1600 | 68.9 | 73.6 | 76.4 | 77.6 | 79.6 | 81.0 | 80.5 | 79.4 | 78.0 | 76.0 | 72.8 | 62.2 | 63.1 |
| 2000 | 65.3 | 71.1 | 74.1 | 75.5 | 76.6 | 78.3 | 78.7 | 78.8 | 77.0 | 74.3 | 71.8 | 68.9 | 62.1 |
| 2500 | 61.2 | 66.6 | 70.6 | 72.4 | 73.6 | 75.6 | 75.7 | 75.2 | 73.9 | 70.2 | 67.7 | 64.0 | 49.1 |
| 3150 | 53.7 | 61.4 | 65.0 | 67.0 | 70.1 | 72.5 | 72.2 | 70.4 | 69.4 | 65.0 | 61.1 | 56.6 | 37.1 |
| 4000 | 42.4 | 52.8 | 57.4 | 60.2 | 63.3 | 66.1 | 65.8 | 64.4 | 62.6 | 56.7 | 51.6 | 43.7 | 17.9 |
| 5000 | 28.7 | 40.8 | 47.6 | 51.2 | 55.1 | 57.8 | 57.4 | 55.5 | 53.6 | 44.9 | 39.4 | 27.3 | |
| 6300 | 6.7 | 22.2 | 31.2 | 36.1 | 40.0 | 43.8 | 43.3 | 40.1 | 38.0 | 28.2 | 18.9 | 2.1 | |
| 8000 | | | 6.3 | 13.7 | 19.8 | 22.5 | 21.7 | 16.9 | 13.6 | 0.1 | | | 165.1 |
| 10000 | | | | | | | | | | | | | 167.7 |
| 12500 | | | | | | | | | | | | | |
| 16000 | | | | | | | | | | | | | |
| 20000 | | | | | | | | | | | | | |
| 25000 | | | | | | | | | | | | | |
| 31500 | | | | | | | | | | | | | |
| 40000 | | | | | | | | | | | | | |
| 50000 | | | | | | | | | | | | | |
| 63000 | | | | | | | | | | | | | |
| 80000 | | | | | | | | | | | | | |
| OASPL | 92.2 | 93.3 | 94.0 | 95.1 | 95.9 | 97.0 | 96.0 | 95.8 | 97.3 | 100.8 | 103.9 | 104.6 | 99.9 |
| PNL | 95.3 | 97.6 | 99.2 | 100.6 | 102.5 | 103.9 | 102.4 | 102.3 | 102.7 | 104.2 | 105.1 | 105.4 | 100.0 |
| PNLT | 96.6 | 98.4 | 99.9 | 101.4 | 103.4 | 105.1 | 102.4 | 102.3 | 102.7 | 104.8 | 105.1 | 105.9 | 100.8 |
| DBA | 84.1 | 87.2 | 88.7 | 90.1 | 92.1 | 91.0 | 91.6 | 91.6 | 92.1 | 92.4 | 92.3 | 91.9 | 85.8 |
| MODEL AREA = 163.1 SQ CM (25.3 SQ IN) | SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) | | | | | | | | | | | | |
| NASA SHOCK CELL/ANNULAR C-D PLUG NO2, SC-4/NAS3-22514 | | | | | | | | | | | | | |
| VEHICL = ADH060 | TEST DATE = 08-24-81 | LEGA = NO | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT |
| WIND DIR = SB59 | WIND VEL = | DEG | WIND VEL = | DEG | WIND VEL = | DEG | WIND VEL = | DEG | WIND VEL = | DEG | WIND VEL = | DEG | WIND VEL = |
| IAPLHA = | VEGA = | NO | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT |
| FNIN1 = | LBS XNL | RPM | XNH | RPM | XNHR | RPM | V8 | RPM | V8 | RPM | AE8 | FPS | AE8 |
| FNRAMB = | LBS XNLR | RPM | XNHR | RPM | XNHR | RPM | V8 | RPM | V8 | RPM | AE8 | FPS | AE8 |
| RUNPT = 81F-ZER-1415 | TAPE | = X14151 | | | | | | | | | | | |
| TEST PT NO = 1415 | NC | = 862 | | | | | | | | | | | |
| CORR FAN SPEED = | RPM | | | | | | | | | | | | |

ORIGINAL PAGE 19
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-1416 X1416F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.
PWL

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 500 | 92.3 | 92.7 | 91.9 | 91.0 | 92.0 | 92.3 | 93.4 | 94.8 | 97.6 | 106.8 | 112.7 | 114.4 | 108.9 | 147.3 |
| 630 | 92.6 | 93.9 | 92.5 | 92.3 | 91.9 | 92.3 | 93.1 | 95.0 | 101.5 | 107.0 | 112.6 | 113.6 | 107.8 | 147.0 |
| 800 | 93.2 | 94.3 | 92.8 | 92.0 | 100.2 | 96.5 | 95.2 | 97.8 | 100.3 | 106.2 | 112.6 | 111.4 | 108.2 | 146.5 |
| 1000 | 99.7 | 101.0 | 96.6 | 95.8 | 95.2 | 95.3 | 95.9 | 100.7 | 106.3 | 110.4 | 108.8 | 106.7 | 145.3 | |
| 1250 | 112.0 | 108.0 | 102.2 | 98.5 | 99.5 | 96.3 | 95.7 | 96.5 | 101.5 | 106.5 | 109.8 | 106.9 | 106.1 | 147.3 |
| 1600 | 111.0 | 112.4 | 108.2 | 104.5 | 111.7 | 99.0 | 97.7 | 102.4 | 107.8 | 108.2 | 104.9 | 105.7 | 150.7 | |
| 2000 | 110.4 | 111.8 | 106.4 | 103.2 | 106.4 | 103.4 | 99.1 | 103.0 | 107.6 | 107.0 | 104.9 | 105.8 | 150.0 | |
| 2500 | 108.1 | 107.6 | 106.1 | 105.9 | 101.8 | 103.8 | 102.7 | 104.0 | 106.5 | 106.6 | 103.6 | 104.8 | 147.6 | |
| 3150 | 105.1 | 105.0 | 103.6 | 103.1 | 102.2 | 101.8 | 102.4 | 102.8 | 105.1 | 105.9 | 103.5 | 104.7 | 146.1 | |
| 4000 | 106.0 | 106.3 | 103.7 | 102.7 | 101.8 | 101.4 | 101.0 | 102.9 | 105.5 | 104.6 | 103.7 | 101.7 | 146.1 | |
| 5000 | 105.4 | 105.1 | 104.2 | 103.4 | 103.0 | 102.4 | 101.1 | 101.3 | 104.7 | 105.0 | 103.7 | 101.7 | 146.1 | |
| 6300 | 104.6 | 105.0 | 103.9 | 103.4 | 103.6 | 102.9 | 101.0 | 100.8 | 103.1 | 104.2 | 102.3 | 101.4 | 145.9 | |
| 8000 | 104.6 | 105.6 | 104.0 | 104.2 | 103.0 | 102.6 | 101.3 | 100.6 | 102.9 | 103.2 | 102.4 | 101.0 | 146.3 | |
| 10000 | 103.7 | 103.7 | 102.5 | 103.3 | 102.2 | 101.2 | 100.3 | 99.4 | 101.4 | 99.9 | 98.7 | 98.7 | 146.1 | |
| 12500 | 103.7 | 103.7 | 102.5 | 103.3 | 102.2 | 101.2 | 100.3 | 99.4 | 101.4 | 99.9 | 98.7 | 98.7 | 146.1 | |
| 16000 | 101.5 | 101.2 | 101.3 | 100.6 | 99.0 | 99.5 | 98.8 | 99.1 | 99.3 | 97.2 | 95.9 | 96.2 | 145.4 | |
| 20000 | 97.6 | 98.8 | 98.4 | 98.0 | 96.7 | 97.2 | 96.4 | 95.9 | 97.2 | 94.6 | 93.9 | 94.8 | 144.5 | |
| 25000 | 94.9 | 95.9 | 95.1 | 94.6 | 94.4 | 95.2 | 94.7 | 92.8 | 95.0 | 92.3 | 92.4 | 92.6 | 144.3 | |
| 31500 | 90.1 | 91.5 | 90.6 | 90.2 | 90.3 | 91.3 | 91.5 | 90.2 | 92.5 | 88.1 | 90.1 | 89.6 | 143.8 | |
| 40000 | 84.5 | 86.9 | 85.3 | 85.1 | 86.8 | 87.6 | 87.7 | 86.7 | 84.3 | 86.4 | 86.6 | 85.2 | 143.7 | |
| 50000 | 79.3 | 81.8 | 81.1 | 82.9 | 84.0 | 83.8 | 81.7 | 85.6 | 80.7 | 83.7 | 83.7 | 81.6 | 144.3 | |
| 63000 | 76.2 | 79.3 | 77.5 | 77.3 | 80.5 | 80.0 | 77.6 | 81.5 | 77.3 | 79.7 | 79.4 | 75.6 | 145.9 | |
| 80000 | 69.7 | 75.8 | 72.7 | 72.6 | 78.3 | 76.2 | 76.0 | 70.8 | 71.7 | 67.5 | 69.9 | 65.8 | 147.6 | |
| GASPL | 118.5 | 118.3 | 116.9 | 116.7 | 115.8 | 114.4 | 113.0 | 112.3 | 115.1 | 118.1 | 121.1 | 121.4 | 119.2 | 160.6 |
| PML | 129.6 | 129.6 | 129.3 | 127.5 | 126.4 | 125.8 | 124.8 | 127.6 | 129.8 | 130.7 | 129.6 | 129.5 | 129.5 | |
| PWLT | 131.9 | 130.7 | 130.9 | 132.2 | 130.6 | 128.7 | 125.8 | 127.6 | 129.8 | 130.7 | 129.6 | 129.5 | 129.5 | |
| DBA | 191.7 | 196.9 | 194.2 | 194.0 | 199.1 | 197.4 | 197.2 | 193.0 | 195.2 | 191.0 | 193.4 | 193.2 | 189.7 | |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH081 TEST DATE = 08-24-81
IAPLHA = SB59 IEGA = NG
WIND DIR = DEG WIND VEL = MPH
EXT DIST = 40.0 FT
PWL AREA = FULL SPHERE
CONFIG = C41 ANECH CH
MODEL = 4
PAMB HG = 29.71
RELHUM = 41.7 PCT
FLTVEL = 400. FPS
NBFR =
FNRAMB = LBS XNL = RPM
XNHR = RPM
V8 = 1726.9 FPS
AE8 = 25.3 SQ IN
AE18 = 0. SQ IN
CORR FAN SPEED = RPM
NC = 862
TEST PT NO = 1416
X1416F =

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ANGLES MEASURED FROM INLET, DEGREES

**ORIGINAL PAGE IS
OF POOR QUALITY**

DATPROC - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

06/18/82 17.411 PAGE 1

ANGLES MEASURED FROM INLET, DEGREES

IDENTIFICATION - MODEL 81F-ZER-1419 X1419C
BACKGROUND 81F-400-0400

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 85.7 | 82.2 | 80.0 | 84.3 | 83.6 | 95.0 | 85.1 | 85.3 | 87.4 | 98.6 | 94.2 | 93.6 | 94.3 | 133.5 |
| 63 | 90.0 | 84.8 | 83.5 | 90.1 | 89.4 | 91.0 | 91.2 | 91.8 | 92.3 | 98.4 | 99.2 | 98.6 | 98.6 | 140.5 |
| 80 | 87.8 | 93.1 | 88.1 | 87.9 | 89.0 | 91.3 | 93.0 | 91.6 | 91.5 | 92.9 | 93.3 | 96.0 | 97.9 | 134.2 |
| 100 | 88.6 | 92.6 | 89.4 | 90.4 | 90.7 | 91.4 | 92.2 | 94.4 | 93.3 | 94.4 | 97.6 | 100.8 | 101.9 | 136.6 |
| 125 | 86.4 | 89.4 | 90.2 | 90.9 | 91.5 | 93.7 | 93.5 | 92.9 | 93.3 | 96.2 | 101.6 | 105.0 | 106.2 | 139.4 |
| 160 | 86.0 | 84.3 | 88.1 | 87.6 | 88.5 | 89.8 | 91.5 | 91.4 | 92.6 | 96.7 | 102.5 | 106.0 | 108.4 | 140.1 |
| 200 | 85.3 | 87.3 | 88.8 | 89.1 | 90.7 | 92.8 | 93.7 | 95.9 | 97.8 | 99.4 | 104.8 | 109.5 | 111.6 | 143.3 |
| 250 | 86.3 | 92.8 | 90.6 | 91.1 | 92.2 | 94.3 | 97.5 | 98.1 | 99.8 | 104.4 | 110.3 | 114.0 | 114.9 | 147.4 |
| 315 | 88.6 | 91.4 | 90.9 | 92.9 | 94.3 | 95.9 | 98.3 | 99.9 | 102.8 | 107.5 | 112.1 | 116.5 | 115.9 | 149.3 |
| 400 | 90.1 | 92.6 | 93.1 | 92.7 | 93.3 | 95.9 | 98.0 | 100.9 | 104.1 | 111.5 | 115.8 | 119.5 | 117.7 | 152.2 |
| 500 | 90.7 | 94.7 | 93.5 | 94.0 | 95.1 | 97.0 | 99.4 | 101.5 | 105.0 | 112.3 | 118.0 | 120.9 | 118.5 | 153.6 |
| 630 | 92.3 | 94.6 | 95.2 | 96.0 | 97.4 | 99.5 | 102.2 | 104.7 | 113.2 | 119.1 | 120.8 | 118.9 | 115.4 | 154.0 |
| 800 | 102.2 | 99.2 | 96.8 | 97.0 | 98.4 | 99.0 | 100.9 | 102.5 | 106.9 | 113.1 | 118.5 | 120.6 | 118.6 | 153.9 |
| 1000 | 113.7 | 110.3 | 104.5 | 104.6 | 105.2 | 104.8 | 104.9 | 104.1 | 106.6 | 112.4 | 119.7 | 125.7 | 125.3 | 158.2 |
| 1250 | 105.7 | 108.3 | 105.5 | 104.6 | 102.7 | 102.5 | 102.4 | 104.1 | 107.2 | 112.1 | 116.0 | 118.7 | 116.9 | 152.7 |
| 1600 | 106.3 | 105.8 | 107.3 | 107.6 | 104.8 | 104.7 | 107.3 | 111.5 | 115.4 | 117.9 | 114.3 | 117.1 | 114.9 | 152.6 |
| 2000 | 105.2 | 106.6 | 105.5 | 106.9 | 111.7 | 115.3 | 108.2 | 104.9 | 107.0 | 111.9 | 114.3 | 117.1 | 114.9 | 153.5 |
| 2500 | 104.4 | 105.0 | 104.5 | 104.3 | 104.8 | 106.0 | 107.3 | 106.5 | 107.2 | 111.3 | 112.7 | 115.7 | 113.7 | 151.1 |
| 3150 | 104.3 | 104.8 | 104.6 | 104.3 | 103.9 | 104.8 | 105.6 | 107.1 | 107.7 | 112.7 | 113.9 | 111.8 | 110.4 | 150.3 |
| 4000 | 103.2 | 104.0 | 104.3 | 104.3 | 103.4 | 105.1 | 104.2 | 106.5 | 107.1 | 108.7 | 110.2 | 112.9 | 110.4 | 149.3 |
| 5000 | 101.6 | 103.7 | 103.7 | 103.5 | 103.4 | 103.6 | 103.8 | 105.4 | 107.9 | 108.0 | 109.8 | 110.8 | 108.4 | 148.6 |
| 6300 | 101.0 | 103.0 | 103.4 | 103.7 | 104.3 | 104.1 | 103.8 | 104.5 | 107.3 | 107.1 | 108.0 | 110.5 | 107.6 | 148.3 |
| 8000 | 98.9 | 101.3 | 102.3 | 102.3 | 103.8 | 103.3 | 103.3 | 104.0 | 106.3 | 106.3 | 108.3 | 105.1 | 147.2 | |
| 10000 | 98.7 | 99.8 | 100.9 | 101.4 | 102.6 | 103.9 | 103.0 | 103.3 | 104.9 | 104.3 | 105.5 | 107.3 | 105.1 | 147.1 |
| 12500 | 96.7 | 98.1 | 99.4 | 99.6 | 100.9 | 102.4 | 102.4 | 101.6 | 102.3 | 103.0 | 103.5 | 105.4 | 102.5 | 146.2 |
| 16000 | 94.1 | 96.4 | 96.9 | 97.2 | 98.6 | 99.8 | 100.2 | 100.7 | 100.8 | 99.9 | 100.3 | 102.6 | 100.4 | 145.3 |
| 20000 | 91.8 | 93.4 | 95.6 | 95.9 | 97.7 | 97.8 | 97.3 | 98.6 | 97.2 | 97.7 | 100.9 | 97.1 | 144.6 | |
| 25000 | 87.8 | 90.6 | 91.7 | 93.6 | 95.7 | 95.9 | 94.8 | 95.9 | 94.2 | 94.7 | 97.6 | 92.9 | 144.2 | |
| 31500 | 83.0 | 86.8 | 87.3 | 88.0 | 89.7 | 91.8 | 92.5 | 91.9 | 92.7 | 90.4 | 91.7 | 94.4 | 143.9 | |
| 40000 | 78.8 | 82.6 | 84.1 | 87.0 | 88.6 | 89.0 | 88.7 | 86.9 | 90.2 | 85.9 | 88.8 | 92.0 | 144.7 | |
| 50000 | 74.9 | 78.2 | 78.9 | 80.6 | 82.8 | 85.8 | 84.3 | 86.9 | 83.4 | 85.8 | 88.7 | 81.6 | 145.6 | |
| 63000 | 70.6 | 75.3 | 76.1 | 77.9 | 79.6 | 82.3 | 82.1 | 80.8 | 84.8 | 79.9 | 83.2 | 88.5 | 148.5 | |
| 80000 | 68.1 | 72.4 | 74.0 | 75.4 | 76.2 | 78.3 | 77.4 | 75.7 | 80.2 | 76.6 | 80.1 | 84.0 | 151.2 | |

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NASA SHOCK CELL/ANNULAR C-D PLUG NO2, SC-4/NAS3-22514

| | | | | | | | | | | | | |
|----------|----------------|--------------|------------|------------|----------------|-----------|------------|----------------|---------|--------|------------|--------------|
| VEHICLE | = ADH061 | TEST DATE | = 08-24-81 | LOCAT | = C41 ANECH CH | CONFID | = 4 | MODEL | = 4 | FLTVEL | = 0. FPS | |
| IAPLHA | = SB59 | IEGA | = NO | PWL AREA | = FULL SPHERE | TAMB F | = 80.00 | PAMB HG | = 29.71 | RELHUM | = 57.6 PCT | |
| WIND DIR | = | DEG WIND VEL | = | MPH | EXT DIST | = 40.0 FT | EXT CONFIG | = ARC | MIKE HT | = | NBFR | = |
| FNINI | = | LBS XNL | = | RPM | XNH | = | RPM | V8 | = | FPS | AEB | = 25.3 SO IN |
| FNRAMB | = | LBS XNLR | = | RPM | XNHR | = | RPM | V18 | = | FPS | AE18 | = 0. SO IN |
| RUNPT | = 81F-ZER-1419 | TAPE | = X1419C | TEST PT NO | = 1419 | NC | = 862 | CORR FAN SPEED | = | RPM | | |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-1419 X1419F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 85.7 82.2 80.0 84.3 83.6 95.0 85.1 85.3 87.4 98.6 94.2 93.6 94.3 133.5
60 90.0 84.8 83.5 90.1 89.4 91.0 91.2 91.8 92.3 108.4 99.2 98.4 98.6 140.5
80 87.8 93.1 88.1 87.9 89.0 91.3 93.0 91.6 91.5 92.9 93.8 96.0 97.9 134.2
100 88.6 92.6 89.4 90.7 91.4 92.2 94.4 93.3 94.4 97.6 100.8 101.9 136.6
125 86.4 89.4 90.2 90.9 91.5 93.7 93.5 92.9 93.3 96.2 101.6 105.0 139.4
160 86.0 84.3 88.1 87.6 88.5 89.8 91.5 91.4 92.6 96.7 102.5 106.0 140.1
200 85.3 87.3 88.8 89.1 90.7 92.8 93.7 95.9 97.8 99.4 104.8 111.6 143.3
250 86.3 92.8 90.6 91.1 92.2 94.3 97.5 98.1 99.8 104.4 110.3 114.0 147.4
315 86.6 91.4 90.9 92.9 94.3 95.9 98.3 99.9 102.8 107.5 112.1 116.5 149.3
400 90.1 92.6 93.1 92.7 93.3 95.9 98.0 100.9 104.1 111.5 115.8 119.5 152.2
500 90.7 94.7 93.5 94.0 95.1 97.0 99.4 101.5 105.0 112.3 118.0 120.9 153.6
630 92.3 94.8 94.6 95.2 96.0 97.4 99.5 102.2 104.7 113.2 119.1 120.8 154.0
800 102.2 99.2 96.8 97.0 98.4 99.0 100.9 102.5 106.9 113.1 118.5 120.6 153.9
1000 113.7 110.3 104.5 104.6 105.2 104.9 104.1 106.6 112.4 119.7 125.3 128.2 158.2
1250 105.7 108.3 105.5 104.6 102.7 102.5 102.4 104.1 107.2 112.1 116.0 118.7 152.7
1600 106.3 105.8 107.3 107.6 106.6 104.8 104.7 107.3 111.5 115.4 117.9 116.2 152.6
2000 105.2 106.6 105.5 106.9 111.7 115.3 108.2 104.9 107.0 111.9 114.3 117.1 153.5
2500 104.4 105.0 104.5 104.8 106.0 107.3 106.5 107.2 111.3 112.7 115.7 113.7 151.1
3150 104.3 104.8 104.6 104.9 104.8 105.6 107.1 107.7 110.1 112.7 113.9 111.8 150.3
4000 103.2 104.0 104.3 104.3 103.4 105.1 104.2 106.5 107.1 108.7 110.2 112.9 149.3
5000 101.6 103.7 103.7 103.5 103.6 103.8 104.5 107.3 107.9 108.0 109.8 110.5 148.6
6300 101.0 103.0 103.4 103.7 104.3 104.1 103.8 104.5 107.3 107.1 108.0 110.5 148.3
8000 98.9 101.3 102.3 102.2 102.9 103.8 103.3 104.0 105.2 106.3 105.7 108.3 147.2
10000 98.7 99.8 100.9 101.4 102.6 103.9 103.0 103.3 104.9 104.3 105.5 107.3 147.1
12500 96.7 99.6 100.9 101.4 102.4 103.6 102.3 103.0 104.9 104.3 105.4 107.3 146.2
16000 94.1 96.4 96.9 97.2 98.6 99.8 100.2 100.7 100.8 99.9 100.3 102.6 145.3
20000 91.8 93.4 95.6 95.9 97.7 97.8 97.3 98.6 97.2 97.7 100.9 97.1 144.6
25000 87.8 90.6 91.1 91.7 93.6 95.7 95.9 94.2 94.7 97.9 94.4 89.0 143.9
31500 83.0 86.8 86.0 86.0 87.3 88.0 87.0 88.6 89.0 88.7 85.9 88.8 144.7
40000 78.8 82.6 84.0 84.1 87.0 88.6 89.0 88.7 89.0 88.7 85.9 88.8 144.7
50000 74.9 78.2 78.9 80.6 82.8 85.8 85.1 84.3 86.9 83.4 85.8 88.7 145.6
63000 70.6 75.3 76.1 77.9 79.6 82.3 82.1 80.8 84.8 79.9 83.2 84.0 148.5
80000 68.1 72.4 74.0 75.4 76.2 78.3 77.4 75.7 79.4 76.6 80.1 84.0 151.2

GASPL 117.0 116.5 115.4 115.6 116.8 118.5 116.5 116.9 118.9 123.2 127.5 130.8 129.6 165.2
PNL 127.5 128.0 127.8 128.0 130.0 132.2 129.5 130.2 131.6 134.9 137.8 140.5 139.3
FNL 131.7 130.4 129.0 132.5 135.7 130.5 130.2 131.6 134.9 137.8 142.5 141.8
DBA 189.0 193.3 194.8 196.3 197.2 199.5 198.8 197.2 201.5 197.6 201.1 205.2 195.4

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH061 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLVEL = 0. FPS
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.71 RELHUM = 57.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR

FNINI = LBS XNL RPM XNH RPM V8 = 1721.2 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNLR RPM XNHR RPM V18 = 1721.2 FPS AE18 = 0. SQ IN
RUNPT = 81 9-1419 TAPE = X1419F TEST PT NG = 1419 NC = 862 CORR FAN SPEED = RPM

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-1420 X1420C
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 85.9 84.5 81.5 79.3 83.4 84.5 84.6 85.3 87.2 96.6 92.2 90.9 95.8 131.3 PWL

63 86.0 85.5 87.8 84.1 90.4 90.5 91.4 91.3 92.6 107.6 92.7 93.4 97.1 139.4

80 88.8 93.6 88.6 88.9 89.5 91.6 93.0 92.4 92.3 93.4 94.0 96.5 101.7 135.6

100 88.3 92.3 88.4 89.9 90.2 90.6 91.7 93.2 91.8 92.4 95.6 99.5 101.7 135.6

125 85.9 89.1 89.4 90.4 90.8 92.7 93.3 92.2 92.0 94.5 100.4 103.8 105.7 138.4

160 83.8 82.6 86.4 87.0 87.6 89.7 89.4 90.3 94.7 100.8 104.5 107.4 138.7

200 83.8 84.1 86.6 85.9 86.7 89.8 89.6 91.0 93.4 95.3 96.9 101.8 107.5 141.0

250 84.0 87.3 86.8 87.9 89.0 90.6 93.0 95.4 96.6 101.7 108.5 112.0 111.4 144.9

315 84.3 87.6 87.6 87.9 89.8 92.9 95.0 97.4 100.5 105.7 110.6 114.3 112.2 146.9

400 86.1 88.1 88.4 89.5 92.6 94.5 96.7 100.9 108.0 112.8 115.0 110.9 147.9

500 85.5 88.2 89.0 89.5 90.9 92.5 95.6 97.8 101.2 109.1 114.0 115.4 107.3 148.4

630 87.1 89.1 89.6 90.2 91.8 93.4 95.5 97.4 100.4 108.7 114.6 114.5 103.4 148.1

800 96.2 96.5 99.8 99.3 100.9 99.3 100.1 99.3 102.6 109.1 114.5 112.1 99.8 148.0

1000 103.2 101.5 97.8 95.6 94.9 95.0 96.9 98.6 102.6 108.4 113.2 108.2 97.3 146.6

1250 103.7 106.5 105.1 103.6 100.9 97.8 96.9 99.1 102.2 108.1 112.0 105.4 96.2 147.0

1600 101.8 102.6 105.8 109.6 112.0 109.1 102.8 100.7 103.1 107.5 111.1 103.7 95.2 149.5

2000 99.7 101.1 100.2 100.6 103.2 102.8 101.9 102.8 108.2 108.5 102.1 94.1 146.4

2500 100.7 101.2 100.2 100.0 99.4 102.0 105.6 104.8 103.3 107.6 106.7 101.0 94.0 145.6

3150 101.3 102.6 101.1 100.6 100.5 100.8 101.7 103.9 103.9 106.4 106.7 99.7 92.8 145.0

4000 101.0 101.6 100.4 100.3 100.4 100.5 102.8 104.4 105.2 104.5 98.2 92.1 144.4

5000 100.2 101.8 101.5 101.5 100.5 101.2 100.3 101.9 104.2 105.1 103.3 97.9 92.0 144.4

6300 99.4 101.3 101.2 101.0 101.4 101.4 101.1 101.1 103.1 104.5 102.5 97.3 91.4 144.2

8000 97.7 99.4 99.7 100.0 100.3 101.4 100.7 100.6 101.4 103.2 100.8 95.7 90.0 143.5

10000 96.6 98.6 98.6 99.8 100.5 101.0 100.4 100.6 101.0 99.2 94.4 89.3 143.4

12500 95.4 96.4 97.1 97.6 98.4 99.4 99.1 99.3 98.8 97.3 92.4 86.7 142.4

16000 91.9 94.6 94.8 94.9 96.0 97.5 97.3 98.1 97.7 95.9 94.2 90.8 85.7 141.8

20000 90.0 91.3 92.4 93.7 94.7 95.3 94.3 95.5 94.4 91.6 88.6 82.6 141.0

25000 85.3 88.2 88.5 89.3 91.3 92.9 92.2 92.6 90.0 88.5 86.1 78.6 140.7

31500 80.5 84.4 84.5 84.8 87.2 89.3 89.2 89.5 89.1 85.7 85.4 82.4 140.1

40000 76.3 80.2 81.1 81.4 83.8 86.1 86.3 85.9 85.9 81.2 82.6 78.9 140.7

50000 72.1 76.1 77.1 79.5 82.5 82.3 81.1 82.4 77.5 78.7 73.9 75.1 141.1

63000 66.8 73.5 73.9 76.9 78.5 78.6 76.8 76.8 73.9 73.9 70.2 66.9 142.9

80000 62.7 73.8 71.4 69.6 74.5 74.9 74.3 71.1 73.4 69.1 70.2 66.9 145.9

OASPL 111.8 113.1 112.9 113.7 114.9 114.4 113.5 113.6 115.1 119.7 123.0 122.7 118.7 159.8

PWL 124.2 125.5 124.9 126.3 127.5 126.7 126.9 126.9 128.1 131.5 132.8 130.4 125.6

DBA 112.0 113.3 113.3 113.1 114.1 115.3 114.5 113.3 113.2 114.6 118.8 121.8 119.5 112.7

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH080 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLVEL = 400. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 85.00 PAMB HG = 29.71 RELHUM = 41.7 PCT
WIND DIR = DE9 WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR

FNINI = LBS XNL RPM XNH RPM XNHR = V8 = 1732.8 FPS AE8 = 25.3 SO IN
FNRAMB = LBS XNLR RPM = V18 = 1732.8 FPS AE18 = 0. SO IN
RPM = CORR FAN SPEED = RPM

RUNPT = 0' 100-1420 TAPE = X1420C TEST PT NO = 1420 NC = 862 CORR FAN SPEED = RPM

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400

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-1420 X1420F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 250 | 91.2 | 93.3 | 91.5 | 91.0 | 90.5 | 90.6 | 91.1 | 91.8 | 97.0 | 101.3 | 105.7 | 109.8 | 109.6 | 143.0 |
| 315 | 91.2 | 93.3 | 91.5 | 91.0 | 91.6 | 93.1 | 93.7 | 94.6 | 97.7 | 104.0 | 108.4 | 111.4 | 109.8 | 144.6 |
| 400 | 92.0 | 94.0 | 92.6 | 91.3 | 91.4 | 92.9 | 93.4 | 94.1 | 99.6 | 106.9 | 111.7 | 114.5 | 109.8 | 147.1 |
| 500 | 93.8 | 93.8 | 93.1 | 91.8 | 92.8 | 92.8 | 94.9 | 96.1 | 99.1 | 107.0 | 113.1 | 115.1 | 108.6 | 147.8 |
| 630 | 93.1 | 94.6 | 94.0 | 93.0 | 93.7 | 93.8 | 94.8 | 95.7 | 101.6 | 107.6 | 113.5 | 114.0 | 107.7 | 147.6 |
| 800 | 94.7 | 95.5 | 94.6 | 93.7 | 92.8 | 99.8 | 99.8 | 96.2 | 96.7 | 101.3 | 107.0 | 111.6 | 106.7 | 146.3 |
| 1000 | 102.7 | 102.2 | 104.3 | 100.6 | 96.6 | 95.7 | 96.2 | 96.7 | 101.3 | 107.0 | 111.6 | 108.5 | 106.7 | 146.3 |
| 1250 | 113.0 | 109.4 | 103.4 | 96.8 | 102.7 | 98.6 | 96.4 | 97.3 | 102.5 | 106.8 | 111.1 | 107.1 | 106.2 | 148.3 |
| 1600 | 110.7 | 112.2 | 109.4 | 112.8 | 114.6 | 105.9 | 108.1 | 105.7 | 101.1 | 103.8 | 107.9 | 107.7 | 105.6 | 151.8 |
| 2000 | 112.2 | 111.4 | 112.8 | 114.6 | 114.6 | 105.9 | 108.1 | 105.7 | 101.1 | 103.8 | 107.9 | 107.7 | 105.6 | 151.8 |
| 2500 | 107.3 | 107.6 | 105.6 | 104.6 | 101.7 | 103.6 | 106.4 | 104.4 | 104.4 | 106.6 | 107.6 | 104.1 | 104.9 | 147.7 |
| 3150 | 105.9 | 105.8 | 104.1 | 103.1 | 103.2 | 102.8 | 102.5 | 103.4 | 105.8 | 106.3 | 106.2 | 103.3 | 104.9 | 146.7 |
| 4000 | 107.0 | 107.5 | 105.2 | 104.0 | 103.5 | 102.9 | 102.2 | 103.3 | 106.0 | 106.6 | 105.4 | 103.3 | 105.0 | 147.3 |
| 5000 | 106.0 | 106.3 | 105.4 | 105.1 | 104.2 | 104.2 | 102.5 | 102.8 | 105.2 | 106.4 | 105.1 | 103.3 | 105.0 | 147.3 |
| 6300 | 105.5 | 106.9 | 106.2 | 105.7 | 105.3 | 104.4 | 103.4 | 102.2 | 104.0 | 105.7 | 104.0 | 102.3 | 104.1 | 147.6 |
| 8000 | 105.4 | 107.0 | 106.3 | 104.3 | 104.4 | 103.0 | 102.0 | 102.0 | 104.2 | 104.6 | 103.6 | 102.1 | 104.2 | 147.7 |
| 10000 | 104.9 | 105.8 | 105.2 | 104.6 | 104.6 | 104.5 | 102.8 | 101.8 | 103.0 | 102.5 | 101.8 | 100.4 | 102.1 | 147.5 |
| 12500 | 103.4 | 104.4 | 103.8 | 104.1 | 102.5 | 102.4 | 101.5 | 99.9 | 102.3 | 100.6 | 99.5 | 99.2 | 101.1 | 146.8 |
| 16000 | 101.7 | 102.0 | 101.8 | 101.4 | 100.0 | 100.5 | 99.7 | 100.0 | 100.6 | 98.6 | 97.5 | 97.9 | 99.0 | 146.2 |
| 20000 | 99.9 | 99.8 | 99.1 | 98.2 | 97.7 | 97.8 | 96.9 | 96.2 | 95.8 | 95.3 | 96.2 | 95.9 | 145.4 | |
| 25000 | 95.4 | 95.9 | 96.4 | 95.1 | 95.4 | 95.9 | 95.6 | 94.0 | 95.6 | 92.4 | 92.9 | 93.3 | 145.0 | |
| 31500 | 89.8 | 92.0 | 91.4 | 91.2 | 91.3 | 92.3 | 91.6 | 91.3 | 93.1 | 88.7 | 91.0 | 90.7 | 144.5 | |
| 40000 | 84.2 | 87.4 | 86.5 | 85.9 | 88.4 | 89.1 | 88.6 | 87.7 | 90.0 | 85.3 | 87.4 | 86.2 | 144.8 | |
| 50000 | 82.4 | 85.0 | 84.5 | 83.2 | 84.1 | 85.5 | 84.8 | 83.0 | 86.8 | 82.1 | 84.2 | 84.0 | 145.8 | |
| 63000 | 77.2 | 80.0 | 78.5 | 78.0 | 81.5 | 81.5 | 81.1 | 78.5 | 82.9 | 78.7 | 80.7 | 81.0 | 147.0 | |
| 80000 | 70.4 | 76.6 | 74.4 | 73.4 | 79.1 | 77.9 | 76.5 | 72.6 | 73.1 | 68.9 | 70.9 | 71.2 | 148.7 | |
| QASPL | 119.3 | 119.1 | 118.1 | 117.9 | 117.9 | 116.1 | 114.4 | 113.4 | 115.8 | 118.8 | 121.9 | 122.0 | 119.4 | 161.6 |
| PNL | 130.8 | 130.6 | 130.4 | 130.8 | 129.9 | 127.5 | 126.9 | 125.7 | 128.4 | 130.5 | 131.7 | 130.2 | 129.9 | |
| PNLT | 133.3 | 130.6 | 133.1 | 134.7 | 129.5 | 128.2 | 125.7 | 128.4 | 130.5 | 131.7 | 130.2 | 129.9 | | |
| DBA | 192.7 | 197.7 | 195.8 | 194.9 | 200.0 | 199.1 | 197.9 | 194.4 | 196.6 | 192.3 | 194.4 | 194.6 | 190.6 | |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NA53-22514

VEHICL = ADH080 TEST DATE = 08-24-81 LOCAL = C41 ANECH CH CONFIG = 4 TAMB F = 85.00 PAMB HG = 29.71 RELHUM = 41.7 PCT
IAPLHA = SB59 IEQA = NO WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBFR
FINI = LBS XNL RPM XNH XNHR = RPM V8 = 1732.8 FPS AE8 = 25.3 SQ IN FPS AE18 = 0. SQ IN
FNAMB = LBS XNLR = RPM XNHR = RPM V8 = 1732.8 FPS AE8 = 25.3 SQ IN FPS AE18 = 0. SQ IN
RUNPT = 81F-400-1420 TAPE = X1420F TEST PT NO = 1420 NC = 862 CORR FAN SPEED = RPM

ORIGINAL PAGE 13
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-1420 X14201

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREQ 50 70.0 73.5 73.2 72.6 73.1 74.7 75.1 75.4 80.2 86.4 89.7 90.3 82.2 164.5

63 71.7 73.3 73.7 73.1 74.5 74.7 76.6 77.4 79.6 86.5 91.1 90.9 81.0 165.2

80 71.0 74.1 74.5 74.3 75.4 76.6 76.4 76.9 82.1 87.0 91.4 89.7 80.0 165.0

100 72.6 74.9 75.1 74.9 76.4 77.8 77.8 78.6 82.1 86.6 90.7 86.8 79.9 164.4

125 80.4 81.5 84.7 81.7 78.1 77.4 77.6 77.8 81.7 86.3 89.3 83.9 78.7 163.7

160 90.5 88.5 83.6 79.8 84.1 80.2 77.8 78.3 82.8 85.9 88.6 82.3 77.7 165.8

200 88.0 91.2 89.5 87.4 96.2 91.5 84.0 80.2 82.9 86.9 86.3 81.0 76.8 169.0

250 89.2 90.0 92.6 95.2 87.0 89.3 86.7 81.7 83.6 86.6 84.7 80.0 76.6 169.2

315 83.9 86.0 85.1 85.0 82.5 84.5 87.2 84.8 83.9 84.9 84.2 78.0 74.5 165.1

400 82.0 83.7 83.3 83.7 83.7 83.5 83.0 83.4 85.0 84.2 82.2 76.5 73.5 164.2

500 82.6 85.1 84.1 83.7 83.8 83.3 82.5 83.0 84.8 84.1 81.0 76.0 72.8 164.7

630 81.0 83.5 83.9 84.5 84.3 84.3 82.5 83.8 83.5 80.1 75.2 71.5 164.7

800 80.1 83.7 84.5 84.8 85.0 84.3 83.1 81.4 82.2 82.4 78.5 73.5 69.5 165.0

1000 79.5 83.5 84.3 84.3 83.9 84.1 82.6 81.0 82.2 81.1 77.7 72.6 68.5 165.1

1250 78.5 81.9 82.9 83.4 84.0 84.2 82.3 80.7 80.8 78.6 75.4 70.1 64.9 164.9

1600 76.2 79.9 81.1 82.5 81.6 81.8 80.7 78.4 79.7 76.1 72.2 67.5 61.6 164.3

2000 73.5 76.9 78.8 79.6 79.0 79.7 78.7 78.3 77.5 73.5 69.3 64.6 56.4 163.7

2500 67.8 73.5 75.2 75.8 76.2 76.4 76.2 74.5 74.3 69.5 65.3 60.1 48.4 162.8

3150 62.0 67.1 70.6 71.2 72.4 73.3 72.6 70.1 69.8 63.6 59.5 52.2 37.4 162.4

4000 50.2 58.6 61.8 64.0 65.4 66.8 65.7 64.1 63.5 55.2 51.4 40.7 20.0 161.9

5000 34.8 46.4 50.7 53.2 57.4 58.7 57.7 55.1 54.1 44.3 38.0 24.2 162.2

6300 15.2 29.8 36.6 39.8 43.1 45.3 43.7 39.5 38.9 26.9 17.1 164.5

8000 9.3 15.3 22.4 23.5 22.0 15.8 13.6

10000 166.1

12500 164.5

16000 163.3

20000 162.2

25000 161.9

31500 162.4

40000 162.8

50000 163.3

63000 164.5

80000 166.1

QASPL 95.8 97.2 97.3 98.1 98.7 96.8 94.7 93.1 94.8 97.1 99.0 96.6 89.2 178.9

PML 100.2 102.4 103.7 104.8 105.0 103.3 101.8 100.6 101.3 101.1 100.2 96.1 89.9

PMLT 101.5 102.4 105.0 106.8 107.1 104.3 102.5 100.6 101.9 101.1 100.2 96.1 89.9

DBA 89.3 92.0 92.6 93.3 93.0 92.6 91.3 89.9 90.8 90.1 87.7 82.7 78.4

MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH080 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE EXT DIST = 2400.0 FT TAMB F = 85.00 PAMB HG = 29.71 RELHUM = 41.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 1732.8 FPS AEB = 25.3 SQ IN
FNRAMB = LBS XNLR = RPM XNH XNHR = RPM V18 = 1732.8 FPS AE18 = 0. SQ IN

RUNPT = 8 30-1420 TAPE = X14201 TEST PT NO = 1420 NC = 862 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

DATPROC - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

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ANGLES MEASURED FROM INLET, DEGREES

IDENTIFICATION - MODEL 81F-ZER-1421 X1421C
BACKGROUND 81F-400-0400FREQ 50 40 50 60 70 80 90 100 110 120 130 140 150 160
PWL

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 85.9 | 83.7 | 80.0 | 84.3 | 84.1 | 95.7 | 75.1 | 85.8 | 88.2 | 98.6 | 94.4 | 93.9 | 94.5 | 133.8 |
| 63 | 85.5 | 85.8 | 89.6 | 89.7 | 89.7 | 92.0 | 91.4 | 91.3 | 92.6 | 108.6 | 99.2 | 98.4 | 98.6 | 140.7 |
| 80 | 87.8 | 87.6 | 87.8 | 87.9 | 89.2 | 91.8 | 92.7 | 91.1 | 92.0 | 93.2 | 93.5 | 96.5 | 97.6 | 134.2 |
| 100 | 88.3 | 88.6 | 88.6 | 89.0 | 91.2 | 91.9 | 92.5 | 94.4 | 93.5 | 94.7 | 97.3 | 100.8 | 101.7 | 136.6 |
| 125 | 89.6 | 89.6 | 90.9 | 91.2 | 91.8 | 93.7 | 94.0 | 93.2 | 93.8 | 96.5 | 102.1 | 106.0 | 106.5 | 139.6 |
| 160 | 86.3 | 84.6 | 88.1 | 87.9 | 89.0 | 89.8 | 92.0 | 91.4 | 92.6 | 96.2 | 102.5 | 108.2 | 108.9 | 140.4 |
| 200 | 85.3 | 88.3 | 88.8 | 89.1 | 90.7 | 93.1 | 93.7 | 96.6 | 98.3 | 99.7 | 105.3 | 109.7 | 111.1 | 143.3 |
| 250 | 86.8 | 92.6 | 91.1 | 91.1 | 93.0 | 94.3 | 97.2 | 98.4 | 99.6 | 104.9 | 110.5 | 114.5 | 114.9 | 147.6 |
| 315 | 88.6 | 92.1 | 91.6 | 93.4 | 94.5 | 96.6 | 98.8 | 100.4 | 103.0 | 108.2 | 112.8 | 116.5 | 116.4 | 149.7 |
| 400 | 90.1 | 93.6 | 93.4 | 93.2 | 94.0 | 96.6 | 98.8 | 100.9 | 104.9 | 112.2 | 116.6 | 119.8 | 117.9 | 152.6 |
| 500 | 91.2 | 94.7 | 93.5 | 94.3 | 95.9 | 97.5 | 99.6 | 101.8 | 105.2 | 113.1 | 118.2 | 121.1 | 118.5 | 153.9 |
| 630 | 93.1 | 95.3 | 94.9 | 95.9 | 97.0 | 98.1 | 100.5 | 102.4 | 104.9 | 113.7 | 119.3 | 120.0 | 118.9 | 153.9 |
| 800 | 106.7 | 100.5 | 99.0 | 99.5 | 99.1 | 101.5 | 101.1 | 103.5 | 107.6 | 113.8 | 118.5 | 120.6 | 119.3 | 154.2 |
| 1000 | 116.0 | 110.0 | 107.5 | 107.6 | 105.7 | 106.5 | 105.2 | 104.3 | 108.3 | 113.1 | 120.5 | 125.7 | 125.8 | 158.7 |
| 1250 | 106.5 | 109.0 | 107.0 | 106.1 | 104.2 | 102.8 | 103.7 | 104.3 | 107.4 | 112.4 | 116.4 | 117.7 | 116.2 | 152.9 |
| 1600 | 107.3 | 109.4 | 107.8 | 109.4 | 109.2 | 106.3 | 105.2 | 107.9 | 112.3 | 115.6 | 117.7 | 116.9 | 115.1 | 153.1 |
| 2000 | 106.4 | 106.3 | 106.5 | 107.4 | 113.0 | 116.1 | 111.5 | 105.4 | 107.5 | 112.7 | 114.0 | 117.6 | 115.1 | 154.3 |
| 2500 | 105.4 | 106.0 | 105.2 | 105.8 | 105.3 | 106.0 | 108.0 | 107.3 | 108.0 | 112.3 | 113.2 | 116.0 | 113.7 | 151.6 |
| 3150 | 104.3 | 105.1 | 105.1 | 105.1 | 105.2 | 106.1 | 107.4 | 108.2 | 110.4 | 112.7 | 114.2 | 111.8 | 110.7 | 150.7 |
| 4000 | 104.0 | 104.2 | 104.8 | 105.0 | 104.6 | 106.1 | 107.7 | 107.5 | 108.6 | 109.5 | 110.5 | 112.9 | 110.4 | 149.9 |
| 5000 | 101.6 | 104.2 | 104.0 | 104.0 | 103.9 | 104.4 | 104.8 | 106.4 | 108.1 | 109.0 | 109.8 | 111.6 | 109.2 | 149.2 |
| 6300 | 101.0 | 103.5 | 103.7 | 104.2 | 104.6 | 104.8 | 105.5 | 107.3 | 107.6 | 108.7 | 110.5 | 107.8 | 106.1 | 147.8 |
| 8000 | 98.9 | 100.1 | 101.4 | 102.6 | 103.1 | 104.4 | 103.7 | 103.8 | 105.4 | 105.3 | 105.8 | 107.8 | 105.9 | 147.7 |
| 10000 | 98.9 | 98.9 | 100.1 | 101.4 | 101.2 | 102.7 | 102.9 | 102.1 | 103.0 | 103.5 | 103.5 | 103.4 | 103.0 | 146.5 |
| 12500 | 96.9 | 98.1 | 99.6 | 99.6 | 99.6 | 101.2 | 102.7 | 102.9 | 102.1 | 103.0 | 103.5 | 103.4 | 103.0 | 146.5 |
| 16000 | 94.3 | 96.4 | 97.7 | 98.8 | 100.3 | 100.7 | 101.3 | 100.7 | 101.5 | 100.7 | 100.8 | 100.6 | 100.6 | 145.8 |
| 20000 | 92.0 | 94.8 | 95.6 | 95.9 | 97.7 | 98.8 | 98.3 | 98.6 | 97.5 | 98.5 | 98.5 | 101.4 | 97.6 | 145.0 |
| 25000 | 88.0 | 90.8 | 91.3 | 92.2 | 93.8 | 96.2 | 96.4 | 95.3 | 96.7 | 95.5 | 94.9 | 97.1 | 94.9 | 144.7 |
| 31500 | 83.8 | 86.5 | 87.3 | 88.5 | 90.0 | 92.6 | 92.6 | 92.7 | 93.2 | 91.4 | 91.7 | 91.5 | 144.4 | |
| 40000 | 79.1 | 82.8 | 84.7 | 84.6 | 87.0 | 88.9 | 89.5 | 89.2 | 90.7 | 87.4 | 89.5 | 92.2 | 87.7 | 145.3 |
| 50000 | 75.6 | 78.9 | 80.7 | 81.3 | 83.3 | 86.0 | 86.1 | 84.8 | 87.4 | 84.7 | 85.8 | 89.9 | 83.9 | 146.3 |
| 63000 | 71.1 | 75.8 | 77.3 | 78.7 | 80.1 | 82.3 | 82.6 | 81.6 | 85.6 | 82.4 | 84.0 | 87.5 | 80.9 | 148.9 |
| 80000 | 69.1 | 72.9 | 73.7 | 74.9 | 77.7 | 78.8 | 80.2 | 76.7 | 81.5 | 80.9 | 79.8 | 85.0 | 77.4 | 152.6 |
| DBA | 118.8 | 117.2 | 116.6 | 117.1 | 118.2 | 119.9 | 117.9 | 117.2 | 119.2 | 123.2 | 127.0 | 130.1 | 129.1 | |
| QASPL | 118.7 | 116.9 | 116.3 | 116.8 | 117.7 | 119.4 | 117.8 | 117.5 | 119.5 | 123.8 | 127.8 | 130.9 | 129.9 | 165.7 |
| PWL | 128.5 | 128.8 | 128.5 | 128.8 | 131.0 | 133.0 | 130.7 | 132.3 | 135.7 | 139.1 | 142.6 | 142.2 | | |
| PWLT | 133.1 | 130.6 | 130.0 | 130.4 | 133.7 | 136.7 | 132.9 | 130.7 | 132.3 | 135.7 | 139.1 | 142.6 | 142.2 | |

NASA SHOCK CELL/ANNULAR C-D PLUG NO2, SC-4/NAS3-22514

VEHICLE = ADH062 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4
 IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 MIKE HT = 29.68 RELHUM = 57.6 PCT
 WIND DIR = WIND WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC NBFR = 0. FPS

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OF POOR QUALITY

FNIN1 = LBS XNL = RPM XNHR = RPM V8 = 1731.4 FPS AE8 = 25.3 SQ IN
 FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 1731.4 FPS AE8 = 25.3 SQ IN
 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - B1F-ZER-1421 X1421F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL |
|--|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 85.9 | 83.7 | 80.0 | 64.3 | 64.1 | 95.7 | 75.1 | 65.8 | 66.2 | 98.6 | 94.4 | 93.9 | 94.5 | 133.8 |
| 63 | 89.7 | 85.5 | 85.8 | 89.6 | 89.7 | 92.0 | 91.4 | 91.3 | 92.6 | 108.6 | 99.2 | 98.4 | 98.6 | 140.7 |
| 80 | 87.8 | 92.6 | 87.9 | 87.8 | 89.2 | 91.8 | 92.7 | 91.1 | 93.2 | 93.5 | 97.6 | 97.6 | 134.2 | |
| 100 | 88.3 | 91.6 | 88.6 | 90.7 | 91.2 | 91.9 | 92.5 | 94.4 | 93.5 | 94.7 | 97.3 | 100.8 | 101.7 | 136.6 |
| 125 | 86.6 | 89.6 | 89.6 | 90.9 | 91.2 | 91.8 | 93.7 | 94.0 | 93.8 | 96.5 | 102.1 | 105.0 | 106.5 | 139.6 |
| 160 | 86.3 | 84.6 | 88.1 | 87.9 | 89.0 | 89.8 | 92.0 | 91.4 | 92.6 | 96.2 | 102.5 | 108.9 | 140.4 | |
| 200 | 85.5 | 88.3 | 88.8 | 89.1 | 90.7 | 93.1 | 93.7 | 96.6 | 98.3 | 99.7 | 105.3 | 109.7 | 143.3 | |
| 250 | 86.8 | 92.6 | 91.1 | 91.1 | 93.0 | 94.3 | 97.2 | 98.4 | 99.6 | 104.9 | 110.5 | 114.5 | 147.6 | |
| 315 | 86.6 | 92.1 | 91.6 | 93.4 | 94.5 | 96.6 | 98.8 | 100.4 | 103.0 | 108.2 | 112.8 | 116.5 | 149.7 | |
| 400 | 90.1 | 93.6 | 93.4 | 93.2 | 94.0 | 96.6 | 98.8 | 100.9 | 104.9 | 112.2 | 116.6 | 119.8 | 152.6 | |
| 500 | 91.2 | 94.7 | 93.5 | 94.3 | 95.9 | 97.5 | 99.6 | 101.8 | 105.2 | 113.1 | 118.2 | 121.1 | 153.9 | |
| 630 | 93.1 | 95.3 | 94.9 | 95.9 | 97.0 | 98.1 | 100.5 | 102.4 | 104.9 | 113.7 | 119.3 | 120.0 | 153.9 | |
| 800 | 106.7 | 100.5 | 99.0 | 99.5 | 99.1 | 101.5 | 101.1 | 103.5 | 107.6 | 113.8 | 118.5 | 120.6 | 154.2 | |
| 1000 | 116.0 | 107.5 | 107.6 | 105.7 | 105.6 | 105.2 | 106.5 | 104.3 | 108.3 | 113.1 | 120.5 | 125.7 | 158.7 | |
| 1250 | 106.5 | 109.0 | 107.0 | 106.1 | 104.2 | 102.8 | 103.7 | 104.3 | 107.4 | 112.4 | 116.2 | 118.4 | 152.9 | |
| 1600 | 107.3 | 106.3 | 107.8 | 109.4 | 109.2 | 108.8 | 106.3 | 105.2 | 107.9 | 112.3 | 115.6 | 117.7 | 153.1 | |
| 2000 | 106.4 | 106.3 | 107.4 | 113.0 | 116.1 | 111.5 | 105.4 | 102.7 | 112.7 | 114.0 | 115.1 | 115.1 | 154.3 | |
| 2500 | 105.4 | 106.0 | 105.2 | 105.8 | 105.3 | 106.0 | 107.3 | 108.0 | 112.3 | 113.2 | 116.0 | 113.7 | 151.6 | |
| 3150 | 104.3 | 105.6 | 105.1 | 105.1 | 105.2 | 106.0 | 106.1 | 107.4 | 108.2 | 110.4 | 112.7 | 114.2 | 150.7 | |
| 4000 | 104.0 | 104.2 | 104.8 | 105.0 | 104.6 | 106.1 | 105.7 | 107.5 | 108.6 | 110.5 | 112.9 | 110.4 | 149.9 | |
| 5000 | 101.6 | 104.2 | 104.0 | 104.9 | 104.4 | 104.8 | 106.4 | 108.1 | 109.0 | 109.8 | 110.6 | 109.2 | 149.2 | |
| 6300 | 101.0 | 103.5 | 103.7 | 104.2 | 104.6 | 105.1 | 104.8 | 105.5 | 107.3 | 107.6 | 108.7 | 110.5 | 148.7 | |
| 8000 | 99.6 | 101.5 | 102.0 | 102.9 | 103.2 | 104.5 | 104.3 | 104.5 | 105.7 | 107.1 | 106.0 | 108.6 | 147.8 | |
| 10000 | 98.9 | 100.1 | 101.4 | 102.6 | 103.1 | 104.4 | 103.7 | 103.8 | 105.4 | 105.3 | 107.8 | 105.9 | 147.7 | |
| 12500 | 96.9 | 98.1 | 99.6 | 101.2 | 102.7 | 102.9 | 102.1 | 103.0 | 103.5 | 103.5 | 105.4 | 103.0 | 146.5 | |
| 16000 | 94.3 | 96.4 | 97.1 | 97.7 | 98.8 | 100.3 | 100.7 | 101.5 | 101.3 | 100.7 | 100.8 | 103.1 | 145.8 | |
| 20000 | 92.0 | 93.2 | 94.8 | 95.6 | 95.9 | 97.7 | 98.8 | 98.8 | 98.6 | 97.5 | 98.5 | 101.4 | 145.0 | |
| 25000 | 88.0 | 89.5 | 91.3 | 92.2 | 93.8 | 96.2 | 96.4 | 95.3 | 96.7 | 95.5 | 94.9 | 97.1 | 144.7 | |
| 31500 | 83.8 | 86.5 | 87.3 | 88.5 | 90.0 | 92.6 | 92.5 | 92.5 | 92.7 | 93.2 | 91.4 | 91.7 | 144.4 | |
| 40000 | 79.1 | 82.8 | 84.7 | 84.6 | 87.0 | 88.9 | 89.5 | 89.2 | 90.7 | 87.4 | 89.5 | 92.2 | 145.3 | |
| 50000 | 75.6 | 78.9 | 80.7 | 81.3 | 83.3 | 86.0 | 86.1 | 84.8 | 85.7 | 84.8 | 85.8 | 87.9 | 146.3 | |
| 63000 | 71.1 | 75.8 | 77.3 | 78.7 | 80.1 | 82.3 | 82.6 | 81.6 | 85.6 | 82.4 | 84.0 | 87.5 | 148.9 | |
| 80000 | 69.1 | 72.9 | 73.7 | 74.9 | 77.7 | 78.8 | 80.2 | 76.7 | 81.5 | 80.9 | 79.8 | 85.0 | 152.6 | |
| OASPL | 118.7 | 116.9 | 116.3 | 116.8 | 117.7 | 119.4 | 117.8 | 117.5 | 119.5 | 123.8 | 127.8 | 130.9 | 129.9 | 165.7 |
| PWL | 128.5 | 128.8 | 128.5 | 128.8 | 131.0 | 133.0 | 130.9 | 130.7 | 132.3 | 135.7 | 138.0 | 140.6 | 139.6 | |
| PWL | 133.1 | 130.6 | 130.0 | 130.4 | 133.7 | 136.7 | 132.3 | 130.7 | 132.3 | 135.7 | 139.1 | 142.6 | 142.2 | |
| DBA | 189.9 | 193.8 | 194.8 | 196.1 | 198.5 | 199.9 | 201.0 | 198.1 | 202.6 | 201.6 | 201.0 | 205.9 | 198.5 | |
| MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES | | | | | | | | | | | | | | |
| NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514 | | | | | | | | | | | | | | |
| VEHICL | = ADH062 | | | | | | | | | | | | | |
| IAPLHA | = SB59 | | | | | | | | | | | | | |
| WIND DIR | = DEG | | | | | | | | | | | | | |
| WIND VEL | = MPH | | | | | | | | | | | | | |
| LOCAT | = C41 ANECH CH | | | | | | | | | | | | | |
| PWL AREA | = FULL SPHERE | | | | | | | | | | | | | |
| EXT DIST | = 40.0 FT | | | | | | | | | | | | | |
| EXT CNFIG | = ARC | | | | | | | | | | | | | |
| MIKE HT | = 29.68 | | | | | | | | | | | | | |
| RELHUM | = 57.6 PCT | | | | | | | | | | | | | |
| FLTVL | = 4 | | | | | | | | | | | | | |
| FPS | = 0. FPS | | | | | | | | | | | | | |
| FNINI | = LBS XNL | | | | | | | | | | | | | |
| FNRAMB | = LBS XNL | | | | | | | | | | | | | |
| R-1421 TAPE | = X1421F | | | | | | | | | | | | | |
| TEST PT NO | = 1421 | | | | | | | | | | | | | |
| NC | = 862 | | | | | | | | | | | | | |
| CORR FAN SPEED | = RPM | | | | | | | | | | | | | |
| AE8 | = 1731.4 FPS | | | | | | | | | | | | | |
| AE18 | = 25.3 SQ IN | | | | | | | | | | | | | |
| AE18 | = 0. SQ IN | | | | | | | | | | | | | |

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-1421 X14211

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 50 | 63 | 80 | 100 | 125 | 160 | 200 | 250 | 315 | 400 | 500 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 2500 | 3150 | 4000 | 5000 | 6300 | 8000 |
|------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| PWL | 68.1 | 69.2 | 71.0 | 74.8 | 75.4 | 77.2 | 78.7 | 79.9 | 82.2 | 83.7 | 85.5 | 87.4 | 89.1 | 91.3 | 92.9 | 94.6 | 95.6 | 90.4 | 170.1 | | | | |
| | 66.1 | 67.2 | 69.2 | 72.1 | 73.6 | 75.6 | 77.6 | 79.3 | 81.3 | 83.1 | 85.8 | 87.2 | 89.6 | 91.7 | 94.6 | 95.6 | 90.4 | 170.1 | | | | | |
| | 64.0 | 65.2 | 67.3 | 69.3 | 71.3 | 73.3 | 75.3 | 77.3 | 79.3 | 81.3 | 83.3 | 85.3 | 87.3 | 89.3 | 91.3 | 92.3 | 93.3 | 88.5 | 170.3 | | | | |
| | 62.0 | 63.0 | 64.3 | 65.8 | 67.1 | 68.2 | 69.7 | 70.9 | 72.6 | 73.8 | 75.5 | 77.0 | 78.4 | 80.1 | 81.7 | 83.3 | 84.8 | 79.3 | 166.2 | | | | |
| | 60.0 | 61.0 | 62.5 | 64.3 | 65.5 | 66.8 | 68.1 | 69.3 | 70.9 | 72.1 | 73.6 | 75.1 | 76.4 | 78.1 | 79.1 | 80.6 | 82.0 | 76.3 | 162.1 | | | | |
| | 58.0 | 59.0 | 60.8 | 62.8 | 64.3 | 65.6 | 66.9 | 68.2 | 69.7 | 70.9 | 72.6 | 73.8 | 75.1 | 76.4 | 77.5 | 78.9 | 80.4 | 73.8 | 158.2 | | | | |
| | 56.0 | 57.0 | 58.9 | 61.0 | 62.5 | 63.8 | 65.1 | 66.4 | 67.7 | 69.0 | 70.3 | 71.6 | 72.9 | 74.2 | 75.5 | 76.8 | 78.1 | 71.2 | 154.4 | | | | |
| | 54.0 | 55.0 | 56.9 | 59.0 | 60.5 | 61.8 | 63.1 | 64.4 | 65.7 | 67.0 | 68.3 | 69.6 | 70.9 | 72.2 | 73.5 | 74.8 | 76.1 | 69.6 | 150.6 | | | | |
| | 52.0 | 53.0 | 54.9 | 57.0 | 58.5 | 59.8 | 61.1 | 62.4 | 63.7 | 65.0 | 66.3 | 67.6 | 68.9 | 70.2 | 71.5 | 72.8 | 74.1 | 67.3 | 146.8 | | | | |
| | 50.0 | 51.0 | 52.9 | 55.0 | 56.5 | 57.8 | 59.1 | 60.4 | 61.7 | 63.0 | 64.3 | 65.6 | 66.9 | 68.2 | 69.5 | 70.8 | 72.1 | 65.3 | 143.0 | | | | |
| | 48.0 | 49.0 | 50.9 | 53.0 | 54.5 | 55.8 | 57.1 | 58.4 | 59.7 | 61.0 | 62.3 | 63.6 | 64.9 | 66.2 | 67.5 | 68.8 | 70.1 | 63.3 | 139.2 | | | | |
| | 46.0 | 47.0 | 48.9 | 51.0 | 52.5 | 53.8 | 55.1 | 56.4 | 57.7 | 59.0 | 60.3 | 61.6 | 62.9 | 64.2 | 65.5 | 66.8 | 68.1 | 61.3 | 135.4 | | | | |
| | 44.0 | 45.0 | 46.9 | 49.0 | 50.5 | 51.8 | 53.1 | 54.4 | 55.7 | 57.0 | 58.3 | 59.6 | 60.9 | 62.2 | 63.5 | 64.8 | 66.1 | 59.5 | 131.6 | | | | |
| | 42.0 | 43.0 | 44.9 | 47.0 | 48.5 | 49.8 | 51.1 | 52.4 | 53.7 | 55.0 | 56.3 | 57.6 | 58.9 | 60.2 | 61.5 | 62.8 | 64.1 | 57.3 | 127.8 | | | | |
| | 40.0 | 41.0 | 42.9 | 45.0 | 46.5 | 47.8 | 49.1 | 50.4 | 51.7 | 53.0 | 54.3 | 55.6 | 56.9 | 58.2 | 59.5 | 60.8 | 62.1 | 55.3 | 124.0 | | | | |
| | 38.0 | 39.0 | 40.9 | 43.0 | 44.5 | 45.8 | 47.1 | 48.4 | 49.7 | 51.0 | 52.3 | 53.6 | 54.9 | 56.2 | 57.5 | 58.8 | 60.1 | 53.3 | 120.2 | | | | |
| | 36.0 | 37.0 | 38.9 | 41.0 | 42.5 | 43.8 | 45.1 | 46.4 | 47.7 | 49.0 | 50.3 | 51.6 | 52.9 | 54.2 | 55.5 | 56.8 | 58.1 | 51.3 | 116.4 | | | | |
| | 34.0 | 35.0 | 36.9 | 39.0 | 40.5 | 41.8 | 43.1 | 44.4 | 45.7 | 47.0 | 48.3 | 49.6 | 50.9 | 52.2 | 53.5 | 54.8 | 56.1 | 49.3 | 112.6 | | | | |
| | 32.0 | 33.0 | 34.9 | 37.0 | 38.5 | 39.8 | 41.1 | 42.4 | 43.7 | 45.0 | 46.3 | 47.6 | 48.9 | 50.2 | 51.5 | 52.8 | 54.1 | 47.3 | 108.8 | | | | |
| | 30.0 | 31.0 | 32.9 | 35.0 | 36.5 | 37.8 | 39.1 | 40.4 | 41.7 | 43.0 | 44.3 | 45.6 | 46.9 | 48.2 | 49.5 | 50.8 | 52.1 | 45.3 | 105.0 | | | | |
| | 28.0 | 29.0 | 30.9 | 33.0 | 34.5 | 35.8 | 37.1 | 38.4 | 39.7 | 41.0 | 42.3 | 43.6 | 44.9 | 46.2 | 47.5 | 48.8 | 50.1 | 43.3 | 101.2 | | | | |
| | 26.0 | 27.0 | 28.9 | 31.0 | 32.5 | 33.8 | 35.1 | 36.4 | 37.7 | 39.0 | 40.3 | 41.6 | 42.9 | 44.2 | 45.5 | 46.8 | 48.1 | 41.3 | 97.4 | | | | |
| | 24.0 | 25.0 | 26.9 | 29.0 | 30.5 | 31.8 | 33.1 | 34.4 | 35.7 | 37.0 | 38.3 | 39.6 | 40.9 | 42.2 | 43.5 | 44.8 | 46.1 | 39.3 | 93.6 | | | | |
| | 22.0 | 23.0 | 24.9 | 27.0 | 28.5 | 29.8 | 31.1 | 32.4 | 33.7 | 35.0 | 36.3 | 37.6 | 38.9 | 40.2 | 41.5 | 42.8 | 44.1 | 37.3 | 89.8 | | | | |
| | 20.0 | 21.0 | 22.9 | 25.0 | 26.5 | 27.8 | 29.1 | 30.4 | 31.7 | 33.0 | 34.3 | 35.6 | 36.9 | 38.2 | 39.5 | 40.8 | 42.1 | 35.3 | 86.0 | | | | |
| | 18.0 | 19.0 | 20.9 | 23.0 | 24.5 | 25.8 | 27.1 | 28.4 | 29.7 | 31.0 | 32.3 | 33.6 | 34.9 | 36.2 | 37.5 | 38.8 | 40.1 | 33.3 | 82.2 | | | | |
| | 16.0 | 17.0 | 18.9 | 21.0 | 22.5 | 23.8 | 25.1 | 26.4 | 27.7 | 29.0 | 30.3 | 31.6 | 32.9 | 34.2 | 35.5 | 36.8 | 38.1 | 31.3 | 78.4 | | | | |
| | 14.0 | 15.0 | 16.9 | 19.0 | 20.5 | 21.8 | 23.1 | 24.4 | 25.7 | 27.0 | 28.3 | 29.6 | 30.9 | 32.2 | 33.5 | 34.8 | 36.1 | 29.3 | 74.6 | | | | |
| | 12.0 | 13.0 | 14.9 | 17.0 | 18.5 | 19.8 | 21.1 | 22.4 | 23.7 | 25.0 | 26.3 | 27.6 | 28.9 | 30.2 | 31.5 | 32.8 | 34.1 | 27.3 | 70.8 | | | | |
| | 10.0 | 11.0 | 12.9 | 15.0 | 16.5 | 17.8 | 19.1 | 20.4 | 21.7 | 23.0 | 24.3 | 25.6 | 26.9 | 28.2 | 29.5 | 30.8 | 32.1 | 25.3 | 67.0 | | | | |
| | 8.000 | 8.500 | 9.000 | 9.500 | 10.000 | 10.500 | 11.000 | 11.500 | 12.000 | 12.500 | 13.000 | 13.500 | 14.000 | 14.500 | 15.000 | 15.500 | 16.000 | 16.500 | 17.000 | 17.500 | 18.000 | 18.500 | 19.000 |
| | 80000 | 85000 | 90000 | 95000 | 100000 | 105000 | 110000 | 115000 | 120000 | 125000 | 130000 | 135000 | 140000 | 145000 | 150000 | 155000 | 160000 | 165000 | 170000 | 175000 | 180000 | 185000 | 190000 |
| | 85.6 | 86.3 | 86.9 | 87.3 | 87.6 | 87.9 | 88.1 | 88.3 | 88.5 | 88.6 | 88.7 | 88.8 | 88.9 | 89.0 | 89.1 | 89.2 | 89.3 | 89.4 | 89.5 | 89.6 | 89.7 | 89.8 | 89.9 |
| | 85.6 | 86.3 | 86.9 | 87.3 | 87.6 | 87.9 | 88.1 | 88.3 | 88.5 | 88.6 | 88.7 | 88.8 | 88.9 | 89.0 | 89.1 | 89.2 | 89.3 | 89.4 | 89.5 | 89.6 | 89.7 | 89.8 | 89.9 |
| | 85.6 | 86.3 | 86.9 | 87.3 | 87.6 | 87.9 | 88.1 | 88.3 | 88.5 | 88.6 | 88.7 | 88.8 | 88.9 | 89.0 | 89.1 | 89.2 | 89.3 | 89.4 | 89.5 | 89.6 | 89.7 | 89.8 | 89.9 |
| | 85.6 | 86.3 | 86.9 | 87.3 | 87.6 | 87.9 | 88.1 | 88.3 | 88.5 | 88.6 | 88.7 | 88.8 | 88.9 | 89.0 | 89.1 | 89.2 | 89.3 | 89.4 | 89.5 | 89.6 | 89.7 | 89.8 | 89.9 |
| | 85.6 | 86.3 | 86.9 | 87.3 | 87.6 | 87.9 | 88.1 | 88.3 | 88.5 | 88.6 | 88.7 | 88.8 | 88.9 | 89.0 | 89.1 | 89.2 | 89.3 | 89.4 | 89.5 | 89.6 | 89.7 | 89.8 | 89.9 |
| | 85.6 | 86.3 | 86.9 | 87.3 | 87.6 | 87.9 | 88.1 | 88.3 | 88.5 | 88.6 | 88.7 | 88.8 | 88.9 | 89.0 | 89.1 | 89.2 | 89.3 | 89.4 | 89.5 | 89.6 | 89.7 | 89.8 | 89.9 |
| | 85.6 | 86.3 | 86.9 | 87.3 | 87.6 | 87.9 | 88.1 | 88.3 | 88.5 | 88.6 | 88.7 | 88.8 | 88.9 | 89.0 | 89.1 | 89.2 | 89.3 | 89.4 | 89.5 | 89.6 | 89.7 | 89.8 | 89.9 |
| | 85.6 | 86.3 | 86.9 | 87.3 | 87.6 | 87.9 | 88.1 | 88.3 | 88.5 | 88.6 | 88.7 | 88.8 | 88.9 | 89.0 | 89.1 | 89.2 | 89.3 | 89.4 | 89.5 | 89.6 | 89.7 | 89.8 | 89.9 |
| | 85.6 | 86.3 | 86.9 | 87.3 | 87.6 | 87.9 | 88.1 | 88.3 | 88.5 | 88.6 | 88.7 | 88.8 | 88.9 | 89.0 | 89.1 | 89.2 | 89.3 | 89.4 | 89.5 | 89.6 | 89.7 | 89.8 | 89.9 |
| | 85.6 | 86.3 | 86.9 | 87.3 | 87.6 | 87.9 | 88.1 | 88.3 | 88.5 | 88.6 | 88.7 | 88.8 | 88.9 | 89.0 | 89.1 | 89.2 | 89.3 | 89.4 | 89.5 | 89.6 | 89.7 | 89.8 | 89.9 |
| | 85.6 | 86.3 | 86.9 | 87.3 | 87.6 | 87.9 | 88.1 | 88.3 | 88.5 | 88.6 | 88.7 | 88.8 | 88.9 | 89.0 | 89.1 | 89.2 | 89.3 | 89.4 | 89.5 | 89.6 | 89.7 | 89.8 | 89.9 |
| | 85.6 | 86.3 | 86.9 | 87.3 | 87.6 | 87.9 | 88.1 | 88.3 | 88.5 | 88.6 | 88.7 | 88.8 | 88.9 | 89.0 | 89.1 | 89.2 | 89.3 | 89.4 | 89.5 | 89.6 | 89.7 | 89.8 | 89.9 |
| | 85.6 | 86.3 | 86.9 | 87.3 | 87.6 | 87.9 | 88.1 | 88.3 | 88.5 | 88.6 | 88.7 | 88.8 | 88.9 | 89.0 | 89.1 | 89.2 | 89.3 | 89.4 | 89.5 | 89.6 | 89.7 | 89.8 | 89.9 |
| | 85.6 | 86.3 | 86.9 | 87.3 | 87.6 | 87.9 | 88.1 | 88.3 | 88.5 | 88.6 | 88.7 | 88.8 | 88.9 | 89.0 | 89.1 | 89.2 | 89.3 | 89.4 | 89.5 | 89.6 | 89.7 | 89.8 | 89.9 |
| | 85.6 | 86.3 | 86.9 | 87.3 | 87.6 | 87.9 | 88.1 | 88.3 | 88.5 | 88.6 | 88.7 | 88.8 | 88.9 | 89.0 | 89.1 | 89.2 | 89.3 | 89.4 | 89.5 | 89.6 | 89.7 | 89.8 | 89.9 |
| | 85.6 | 86.3 | 86.9 | 87.3 | 87.6 | 87.9 | 88.1 | 88.3 | 88.5 | 88.6 | 88.7 | 88.8 | 88.9 | 89.0 | 89.1 | 89.2 | 89.3 | 89.4 | 89.5 | 89.6 | 89.7 | 89.8 | 89.9 |
| | 85.6 | 86.3 | 86.9 | 87.3 | 87.6 | 87.9 | 88.1 | 88.3 | 88.5 | 88.6 | 88.7 | 88.8 | 88.9 | 89.0 | 89.1 | 89.2 | 89.3 | 89.4 | 89.5 | 89.6 | 89.7 | 89.8 | 89.9 |
| | 85.6 | 86.3 | 86.9 | 87.3 | 87.6 | 87.9 | 88.1 | 88.3 | 88.5 | 88.6 | 88.7 | 88.8 | 88.9 | 89.0 | 89.1 | 89.2 | 89.3 | 89.4 | 89.5 | 89.6 | 89.7 | 89.8 | 89.9 |
| | 85.6 | 86.3 | 86.9 | 87.3 | 87.6 | 87.9 | 88.1 | 88.3 | 88.5 | 88.6 | 88.7 | 88.8 | 88.9 | 89.0 | 89.1 | 89.2 | 89.3 | 89.4 | 89.5 | 89.6 | 89.7 | 89.8 | 89.9 |
| | 85.6 | 86.3 | 86.9 | 87.3 | 87.6 | 87.9 | 88.1 | 88.3 | 88.5 | 88.6 | 88.7 | 88.8 | 88.9 | 89.0 | 89.1 | 89.2 | 89.3 | 89.4 | 89.5 | 89.6 | 89.7 | 89.8 | 89.9 |
| | 85.6 | 86.3 | 86.9 | 87.3 | 87.6 | 87.9 | 88.1 | 88.3 | 88.5 | 88.6 | 88.7 | 88.8 | 88.9 | 89.0 | 89.1 | 89.2 | 89.3 | 89.4 | 89.5 | 89.6 | 89.7 | 89.8 | 89.9 |
| | 85.6 | 86.3 | 86.9 | 87.3 | 87.6 | 87.9 | 88.1 | 88.3 | 88.5 | 88.6 | 88.7 | 88.8 | 88.9 | 89.0 | 89.1 | 89.2 | 89.3 | 89.4 | 89.5 | 89.6 | 89.7 | 89.8 | 89.9 |
| | 85.6 | 86.3 | 86.9 | 87.3 | 87.6 | 87.9 | 88.1 | 88.3 | 88.5 | 88.6 | 88.7 | 88.8 | 88.9 | 89.0 | 89.1 | 89.2 | 89.3 | 89.4 | 89.5 | 89.6 | 89.7 | 89.8 | 89.9 |
| | 85.6 | 86.3 | 86.9 | 87.3 | 87.6 | 87.9 | 88.1 | 88.3 | 88.5 | 88.6 | 88.7 | 88.8 | 88.9 | 89.0 | 89.1 | 89.2 | 89.3 | 89.4 | 89.5 | 89.6 | 89.7 | 89.8 | 89.9 |
| | 85.6 | 86.3 | 86.9 | 87.3 | 87.6 | 87.9 | 88.1 | 88.3 | 88.5 | 88.6 | 88.7 | 88.8 | 88.9 | 89.0 | 89.1 | 89.2 | 89.3 | 89.4 | 89.5 | 89.6 | 89.7 | 89.8 | 89.9 |
| | 85.6 | 86.3 | 86.9 | 87.3 | | | | | | | | | | | | | | | | | | | |

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-1422 X1422C
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL |
|---|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 86.7 | 86.5 | 88.5 | 83.3 | 83.4 | 84.5 | 84.6 | 85.3 | 87.7 | 97.8 | 92.4 | 91.9 | 99.3 | 132.9 |
| 63 | 86.2 | 89.5 | 89.3 | 89.7 | 90.3 | 90.4 | 90.8 | 92.6 | 108.4 | 91.7 | 92.2 | 98.3 | 140.2 | |
| 80 | 89.3 | 93.8 | 94.6 | 88.4 | 89.0 | 91.6 | 92.5 | 91.9 | 92.5 | 93.4 | 94.0 | 96.7 | 99.6 | 135.2 |
| 100 | 88.3 | 92.3 | 94.6 | 89.7 | 90.0 | 90.6 | 92.0 | 93.7 | 91.8 | 92.7 | 95.8 | 100.3 | 102.4 | 136.3 |
| 125 | 86.6 | 89.1 | 95.9 | 91.2 | 91.5 | 93.4 | 93.0 | 92.7 | 92.3 | 94.7 | 101.1 | 104.5 | 106.5 | 139.3 |
| 160 | 83.8 | 83.3 | 83.1 | 86.6 | 87.5 | 88.1 | 90.0 | 89.9 | 90.8 | 94.9 | 101.5 | 105.2 | 108.1 | 139.5 |
| 200 | 84.3 | 85.3 | 92.3 | 86.4 | 86.0 | 90.3 | 91.5 | 93.4 | 95.5 | 97.2 | 102.5 | 108.0 | 110.4 | 141.7 |
| 250 | 84.0 | 88.1 | 93.3 | 88.1 | 89.5 | 90.8 | 93.7 | 95.6 | 97.1 | 102.4 | 109.0 | 112.5 | 112.1 | 145.5 |
| 315 | 83.8 | 87.9 | 93.6 | 88.2 | 89.8 | 92.9 | 95.0 | 97.4 | 100.5 | 106.0 | 110.6 | 114.5 | 112.9 | 147.2 |
| 400 | 86.3 | 87.9 | 94.4 | 88.7 | 89.5 | 92.9 | 94.8 | 97.2 | 101.4 | 108.2 | 113.3 | 115.8 | 111.9 | 148.6 |
| 500 | 85.7 | 88.2 | 94.8 | 90.0 | 91.1 | 92.8 | 95.1 | 97.8 | 101.5 | 109.1 | 114.2 | 115.4 | 108.3 | 148.6 |
| 630 | 87.8 | 90.1 | 97.4 | 90.9 | 92.5 | 93.6 | 95.5 | 98.2 | 100.4 | 109.2 | 115.3 | 114.8 | 103.9 | 148.7 |
| 800 | 98.7 | 101.6 | 107.2 | 101.4 | 104.0 | 107.3 | 106.7 | 102.1 | 103.5 | 109.2 | 109.3 | 103.1 | 95.6 | 147.7 |
| 1000 | 104.7 | 103.3 | 105.5 | 96.6 | 94.9 | 96.0 | 97.2 | 99.1 | 103.1 | 108.6 | 114.2 | 109.2 | 98.6 | 147.8 |
| 1250 | 104.7 | 108.0 | 112.1 | 105.1 | 102.7 | 98.8 | 97.9 | 99.1 | 103.2 | 108.9 | 112.8 | 106.2 | 96.7 | 149.0 |
| 1600 | 102.8 | 104.3 | 113.1 | 111.1 | 110.3 | 103.6 | 101.0 | 103.1 | 108.0 | 111.6 | 104.5 | 96.5 | 151.3 | |
| 2000 | 101.2 | 101.6 | 107.2 | 101.4 | 104.0 | 107.3 | 106.7 | 102.1 | 103.5 | 109.2 | 109.3 | 103.1 | 95.6 | 147.7 |
| 2500 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0 | 147.1 |
| 3150 | 102.0 | 102.8 | 107.6 | 101.6 | 101.2 | 101.0 | 102.2 | 104.9 | 105.4 | 106.9 | 104.7 | 99.4 | 93.4 | 146.0 |
| 4000 | 102.5 | 102.8 | 108.0 | 101.6 | 100.6 | 101.3 | 101.5 | 103.6 | 105.4 | 106.2 | 104.7 | 99.4 | 93.4 | 146.0 |
| 5000 | 100.4 | 102.0 | 107.5 | 102.0 | 101.2 | 100.9 | 101.6 | 102.4 | 105.7 | 106.3 | 104.6 | 98.4 | 92.7 | 145.9 |
| 6300 | 99.9 | 101.3 | 106.7 | 101.7 | 101.7 | 102.1 | 101.1 | 102.3 | 104.6 | 105.2 | 103.5 | 98.6 | 91.9 | 145.6 |
| 8000 | 98.2 | 99.9 | 105.9 | 99.8 | 100.3 | 101.6 | 101.2 | 101.1 | 102.4 | 104.0 | 101.3 | 96.4 | 91.0 | 144.8 |
| 10000 | 97.6 | 98.3 | 105.3 | 99.0 | 100.5 | 101.3 | 100.6 | 101.0 | 101.9 | 101.8 | 100.0 | 95.2 | 90.0 | 144.6 |
| 12500 | 95.7 | 96.9 | 103.6 | 97.6 | 98.9 | 99.4 | 99.4 | 99.1 | 100.1 | 99.5 | 98.0 | 93.7 | 87.7 | 143.7 |
| 16000 | 92.9 | 94.9 | 101.1 | 95.4 | 96.2 | 97.5 | 97.8 | 98.6 | 98.2 | 96.9 | 94.9 | 91.5 | 85.7 | 143.0 |
| 20000 | 90.3 | 91.8 | 98.2 | 93.7 | 95.8 | 95.7 | 95.8 | 95.7 | 94.2 | 92.6 | 89.4 | 87.1 | 79.6 | 141.9 |
| 25000 | 86.0 | 89.5 | 95.2 | 89.8 | 91.1 | 93.4 | 93.7 | 92.9 | 93.1 | 90.7 | 89.5 | 87.1 | 79.6 | 141.9 |
| 31500 | 81.5 | 85.4 | 91.0 | 85.8 | 87.5 | 89.6 | 89.6 | 90.5 | 90.0 | 89.6 | 87.0 | 86.6 | 83.2 | 141.4 |
| 40000 | 77.0 | 81.7 | 87.4 | 82.1 | 83.8 | 86.5 | 86.5 | 86.4 | 87.1 | 83.6 | 80.1 | 71.6 | 67.3 | 142.1 |
| 50000 | 72.6 | 80.4 | 82.6 | 78.1 | 79.8 | 82.5 | 82.6 | 81.4 | 82.4 | 79.0 | 76.4 | 72.2 | 62.1 | 144.4 |
| 63000 | 66.8 | 80.4 | 79.7 | 75.7 | 78.4 | 78.8 | 79.1 | 77.6 | 79.2 | 73.9 | 75.6 | 72.2 | 62.1 | 144.4 |
| 80000 | 62.2 | 80.1 | 78.1 | 72.6 | 74.3 | 74.7 | 74.5 | 71.1 | 73.4 | 69.3 | 70.7 | 66.9 | 55.5 | 148.0 |
| QASPL | 112.8 | 114.1 | 119.8 | 114.8 | 115.7 | 115.2 | 114.3 | 114.5 | 115.9 | 120.3 | 123.6 | 123.1 | 119.6 | 161.0 |
| PWL | 125.0 | 126.1 | 131.6 | 127.4 | 128.3 | 127.6 | 127.7 | 127.8 | 129.0 | 132.2 | 133.5 | 131.0 | 126.4 | |
| PMLT | 125.0 | 127.5 | 133.8 | 131.1 | 132.3 | 130.5 | 129.5 | 129.3 | 129.0 | 132.2 | 133.5 | 131.0 | 126.4 | |
| DBA | 113.1 | 114.3 | 120.0 | 115.2 | 116.1 | 115.4 | 114.3 | 114.1 | 115.5 | 119.5 | 122.5 | 120.0 | 113.6 | |
| NASA SHOCK CELL/ANNULAR C-D PLUG NO2. SC-4/NAS3-22514 | | | | | | | | | | | | | | |
| VEHICL | = ADH079 | | | | | | | | | | | | | |
| IAPLHA | = SB59 | | | | | | | | | | | | | |
| WIND DIR | = SB59 | | | | | | | | | | | | | |
| DEG WIND VEL | = NO | | | | | | | | | | | | | |
| MPH | = NO | | | | | | | | | | | | | |
| EXT DIST | = 40.0 FT | | | | | | | | | | | | | |
| EXT CNF10 | = ARC | | | | | | | | | | | | | |
| MODEL | = 4 | | | | | | | | | | | | | |
| PAMB HG | = 29.71 | | | | | | | | | | | | | |
| RELHUM | = 41.7 PCT | | | | | | | | | | | | | |
| FLVEL | = 400. FPS | | | | | | | | | | | | | |
| LOCAT | = C41 ANECH CH | | | | | | | | | | | | | |
| PWL AREA | = FULL SPHERE | | | | | | | | | | | | | |
| RPM | = | | | | | | | | | | | | | |
| XNHR | = | | | | | | | | | | | | | |
| RPM | = | | | | | | | | | | | | | |
| XNHL | = | | | | | | | | | | | | | |
| LBS | = | | | | | | | | | | | | | |
| XNLR | = | | | | | | | | | | | | | |
| FNRAMB | = | | | | | | | | | | | | | |
| TEST DATE | = 08-24-81 | | | | | | | | | | | | | |
| TEST PT NO | = 1422 | | | | | | | | | | | | | |
| NC | = 862 | | | | | | | | | | | | | |
| CORR FAN SPEED | = RPM | | | | | | | | | | | | | |
| AE8 | = 1734.3 FPS | | | | | | | | | | | | | |
| AE18 | = 25.3 SQ IN | | | | | | | | | | | | | |
| AE18 | = 0. SQ IN | | | | | | | | | | | | | |
| MIKE HT | = NBFR | | | | | | | | | | | | | |

ORIGINAL PAGE IS
OF POOR QUALITY

406

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-1422 X1422F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

FREQ

50

63

80

100

125

160

200

250

315

400

500

630

800

1000

1250

1600

2000

2500

3150

4000

5000

6300

8000

10000

12500

16000

20000

25000

31500

40000

50000

63000

80000

| | | | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 2500 | 93.7 | 95.7 | 98.9 | 91.7 | 91.5 | 93.1 | 93.7 | 91.8 | 91.8 | 92.0 | 97.0 | 101.6 | 105.7 | 110.1 | 110.3 | 143.6 |
| 2250 | 93.7 | 95.7 | 98.9 | 91.7 | 91.5 | 93.1 | 93.7 | 91.8 | 91.8 | 92.0 | 97.0 | 101.6 | 105.7 | 110.1 | 110.3 | 143.6 |
| 315 | 93.7 | 95.7 | 98.9 | 91.7 | 91.5 | 93.1 | 93.7 | 91.8 | 91.8 | 92.0 | 97.0 | 101.6 | 105.7 | 110.1 | 110.3 | 143.6 |
| 1400 | 91.0 | 94.0 | 98.4 | 91.4 | 91.2 | 93.1 | 93.5 | 94.4 | 91.4 | 93.5 | 94.4 | 99.7 | 106.7 | 114.1 | 110.4 | 147.1 |
| 500 | 92.6 | 93.3 | 98.7 | 91.7 | 92.9 | 93.1 | 94.4 | 96.1 | 94.4 | 96.1 | 99.0 | 107.4 | 113.8 | 115.3 | 109.1 | 148.2 |
| 630 | 92.5 | 94.1 | 99.4 | 93.3 | 94.5 | 94.0 | 94.7 | 96.4 | 94.7 | 96.4 | 102.0 | 108.5 | 114.2 | 114.4 | 108.5 | 148.2 |
| 800 | 97.3 | 97.7 | 103.1 | 94.7 | 103.7 | 104.0 | 101.1 | 101.1 | 101.1 | 102.2 | 107.6 | 114.0 | 112.3 | 109.1 | 148.3 | |
| 1000 | 108.2 | 105.7 | 113.5 | 104.9 | 96.7 | 96.7 | 96.7 | 97.3 | 97.3 | 102.2 | 107.7 | 112.3 | 109.2 | 107.8 | 149.3 | |
| 1250 | 112.1 | 109.4 | 110.3 | 99.8 | 105.1 | 99.6 | 97.3 | 97.3 | 97.3 | 102.9 | 107.7 | 112.0 | 108.3 | 107.8 | 149.4 | |
| 1600 | 115.0 | 116.5 | 118.6 | 109.6 | 115.6 | 111.3 | 103.7 | 99.9 | 99.9 | 103.7 | 109.1 | 110.0 | 107.3 | 107.3 | 150.0 | |
| 2000 | 111.0 | 111.4 | 118.8 | 115.3 | 108.6 | 107.2 | 101.4 | 104.5 | 108.9 | 108.5 | 106.4 | 107.2 | 153.9 | 107.2 | 153.9 | |
| 2500 | 108.5 | 107.9 | 112.4 | 105.3 | 103.4 | 103.8 | 107.4 | 105.7 | 105.7 | 107.5 | 107.1 | 108.4 | 105.1 | 108.6 | 149.5 | |
| 3150 | 111.8 | 114.0 | 115.7 | 105.7 | 104.6 | 103.0 | 104.4 | 107.0 | 107.0 | 107.5 | 106.7 | 104.8 | 106.3 | 150.5 | 150.7 | |
| 4000 | 111.9 | 111.2 | 114.2 | 106.5 | 104.4 | 103.9 | 103.3 | 104.2 | 107.2 | 107.5 | 106.3 | 103.5 | 105.5 | 150.7 | 150.7 | |
| 5000 | 111.8 | 110.9 | 114.8 | 106.7 | 105.7 | 103.9 | 103.6 | 106.5 | 106.5 | 106.9 | 105.8 | 104.3 | 105.3 | 151.0 | 151.0 | |
| 6000 | 109.9 | 110.2 | 114.2 | 107.2 | 105.7 | 105.1 | 103.3 | 103.3 | 105.0 | 106.4 | 104.5 | 103.0 | 105.0 | 150.6 | 150.6 | |
| 8000 | 108.9 | 109.1 | 113.1 | 110.7 | 104.1 | 104.6 | 103.5 | 102.5 | 105.2 | 105.0 | 103.9 | 102.5 | 104.7 | 150.1 | 150.1 | |
| 10000 | 103.8 | 105.2 | 110.7 | 103.8 | 104.5 | 104.3 | 103.1 | 102.7 | 103.7 | 103.1 | 102.3 | 101.4 | 102.8 | 148.6 | 148.6 | |
| 12500 | 103.4 | 103.7 | 110.1 | 103.0 | 102.8 | 102.4 | 101.8 | 100.8 | 102.8 | 101.5 | 100.3 | 100.3 | 101.7 | 147.3 | 147.3 | |
| 16000 | 100.9 | 101.8 | 107.9 | 101.1 | 100.2 | 100.2 | 100.3 | 100.5 | 100.8 | 99.2 | 98.2 | 98.2 | 99.5 | 147.6 | 147.6 | |
| 20000 | 98.0 | 99.5 | 105.0 | 98.5 | 97.7 | 98.7 | 98.3 | 97.6 | 98.8 | 96.6 | 96.2 | 97.1 | 96.7 | 146.9 | 146.9 | |
| 25000 | 95.5 | 96.3 | 101.8 | 95.6 | 95.1 | 96.4 | 96.1 | 94.8 | 96.2 | 93.7 | 94.2 | 94.2 | 94.2 | 146.5 | 146.5 | |
| 31500 | 90.6 | 93.3 | 98.1 | 91.7 | 91.6 | 92.6 | 93.0 | 92.0 | 94.2 | 89.1 | 91.6 | 91.7 | 90.7 | 146.2 | 146.2 | |
| 40000 | 85.4 | 88.6 | 93.2 | 87.0 | 87.9 | 88.9 | 88.3 | 86.3 | 89.9 | 86.7 | 88.0 | 88.5 | 86.8 | 146.0 | 146.0 | |
| 50000 | 80.5 | 84.5 | 89.2 | 83.0 | 83.9 | 85.5 | 85.0 | 83.3 | 87.3 | 82.0 | 84.6 | 84.8 | 82.3 | 146.5 | 146.5 | |
| 63000 | 75.0 | 82.1 | 83.4 | 77.9 | 81.5 | 81.8 | 81.4 | 79.2 | 82.9 | 78.9 | 81.2 | 81.0 | 77.2 | 147.8 | 147.8 | |
| 80000 | 69.0 | 81.2 | 79.4 | 74.1 | 78.4 | 77.7 | 76.8 | 72.6 | 73.1 | 69.1 | 71.4 | 71.2 | 67.4 | 149.9 | 149.9 | |
| OASPL | 121.6 | 121.6 | 125.7 | 119.1 | 118.6 | 116.8 | 115.2 | 114.3 | 116.7 | 119.5 | 122.6 | 122.4 | 120.2 | 163.6 | 163.6 | |
| PML | 133.5 | 133.3 | 137.5 | 131.9 | 130.6 | 128.4 | 127.6 | 126.7 | 129.4 | 131.3 | 132.3 | 132.3 | 130.8 | 130.9 | 130.9 | |
| DBA | 191.1 | 201.8 | 200.8 | 195.4 | 199.4 | 198.9 | 198.2 | 194.7 | 196.7 | 192.6 | 194.9 | 194.7 | 191.2 | 191.2 | 191.2 | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|---|------|------|------|------|------|------|------|------|------|------|------|-------|------|-------|-------|
| IDENTIFICATION - 81F-400-1422 X14221 | | | | | | | | | | | | | | | ANGLES MEASURED FROM INLET, DEGREES | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | FREQ | | | | | | | | | | | | | | | |
| 50 | 69.0 | 73.5 | 79.0 | 72.8 | 72.9 | 75.0 | 75.2 | 75.8 | 80.3 | 86.2 | 89.7 | 89.9 | 82.9 | 164.5 | ORIGINAL PAGE IS
OF POOR QUALITY | 50 | 69.0 | 73.5 | 79.0 | 72.8 | 72.9 | 75.0 | 75.2 | 75.8 | 80.3 | 86.2 | 89.7 | 89.9 | 82.9 | 164.5 |
| 63 | 70.6 | 73.5 | 79.9 | 74.5 | 76.2 | 75.8 | 76.1 | 77.3 | 79.6 | 86.9 | 91.8 | 91.1 | 81.5 | 165.7 | | 63 | 70.6 | 73.5 | 79.9 | 74.5 | 76.2 | 75.8 | 76.4 | 77.6 | 79.6 | 86.9 | 91.8 | 91.1 | 81.5 | 165.7 |
| 80 | 70.4 | 73.5 | 79.9 | 74.5 | 76.2 | 75.8 | 76.4 | 77.6 | 82.6 | 88.0 | 92.1 | 90.1 | 80.8 | 165.7 | | 80 | 70.4 | 73.5 | 79.9 | 74.5 | 76.2 | 75.8 | 76.4 | 77.6 | 82.6 | 88.0 | 92.1 | 90.1 | 80.8 | 165.7 |
| 100 | 75.1 | 77.1 | 83.6 | 75.9 | 85.4 | 85.8 | 82.7 | 82.3 | 82.7 | 87.0 | 91.8 | 87.9 | 81.2 | 165.8 | | 100 | 75.1 | 77.1 | 83.6 | 75.9 | 85.4 | 85.8 | 82.7 | 82.3 | 82.7 | 87.0 | 91.8 | 87.9 | 81.2 | 165.8 |
| 125 | 85.9 | 85.0 | 93.9 | 86.0 | 78.2 | 78.4 | 78.1 | 78.4 | 82.6 | 87.0 | 90.0 | 84.6 | 79.1 | 166.8 | | 125 | 85.9 | 85.0 | 93.9 | 86.0 | 78.2 | 78.4 | 78.1 | 78.4 | 82.6 | 87.0 | 90.0 | 84.6 | 79.1 | 166.8 |
| 150 | 89.7 | 86.6 | 90.6 | 86.6 | 81.2 | 78.8 | 78.3 | 78.8 | 83.2 | 86.8 | 89.5 | 83.5 | 79.3 | 166.8 | | 150 | 89.7 | 86.6 | 90.6 | 86.6 | 81.2 | 78.8 | 78.3 | 78.8 | 83.2 | 86.8 | 89.5 | 83.5 | 79.3 | 166.8 |
| 200 | 92.3 | 95.5 | 98.7 | 90.4 | 96.9 | 92.8 | 85.0 | 80.8 | 83.7 | 88.0 | 87.2 | 82.2 | 78.4 | 172.4 | | 200 | 92.3 | 95.5 | 98.7 | 90.4 | 96.9 | 92.8 | 85.0 | 80.8 | 83.7 | 88.0 | 87.2 | 82.2 | 78.4 | 172.4 |
| 250 | 88.0 | 90.1 | 98.7 | 96.0 | 87.7 | 89.8 | 88.3 | 82.0 | 84.4 | 87.6 | 85.5 | 80.8 | 77.6 | 171.3 | | 250 | 88.0 | 90.1 | 98.7 | 96.0 | 87.7 | 89.8 | 88.3 | 82.0 | 84.4 | 87.6 | 85.5 | 80.8 | 77.6 | 171.3 |
| 315 | 86.0 | 92.0 | 98.7 | 85.2 | 85.7 | 84.2 | 86.0 | 85.4 | 85.4 | 89.0 | 79.0 | 75.2 | 167.9 | | | 315 | 86.0 | 92.0 | 98.7 | 85.2 | 85.7 | 84.2 | 86.0 | 85.4 | 85.4 | 89.0 | 79.0 | 75.2 | 167.9 | |
| 400 | 87.8 | 88.9 | 93.2 | 85.7 | 85.1 | 83.7 | 83.5 | 84.4 | 86.1 | 85.5 | 82.7 | 78.1 | 74.9 | 167.9 | | 400 | 87.8 | 88.9 | 93.2 | 85.7 | 85.1 | 83.7 | 83.5 | 84.4 | 86.1 | 85.5 | 82.7 | 78.1 | 74.9 | 167.9 |
| 500 | 87.4 | 88.7 | 93.1 | 86.2 | 84.6 | 84.3 | 83.5 | 84.0 | 86.0 | 85.0 | 81.8 | 76.1 | 73.1 | 168.2 | | 500 | 87.4 | 88.7 | 93.1 | 86.2 | 84.6 | 84.3 | 83.5 | 84.0 | 86.0 | 85.0 | 81.8 | 76.1 | 73.1 | 168.2 |
| 630 | 86.8 | 88.0 | 93.3 | 86.1 | 85.3 | 84.1 | 83.6 | 82.5 | 85.1 | 84.0 | 80.9 | 76.2 | 71.8 | 168.4 | | 630 | 86.8 | 88.0 | 93.3 | 86.1 | 85.3 | 84.1 | 83.6 | 82.5 | 85.1 | 84.0 | 80.9 | 76.2 | 71.8 | 168.4 |
| 800 | 84.5 | 87.0 | 92.5 | 86.4 | 85.5 | 84.4 | 83.1 | 81.5 | 83.2 | 81.5 | 78.1 | 73.1 | 69.0 | 167.5 | | 800 | 84.5 | 87.0 | 92.5 | 86.4 | 85.5 | 84.4 | 83.1 | 81.5 | 83.2 | 81.5 | 78.1 | 73.1 | 69.0 | 167.5 |
| 1000 | 83.0 | 85.5 | 91.1 | 85.7 | 83.7 | 84.4 | 83.1 | 81.5 | 83.2 | 81.5 | 78.1 | 73.1 | 69.0 | 167.5 | | 1000 | 83.0 | 85.5 | 91.1 | 85.7 | 83.7 | 84.4 | 83.1 | 81.5 | 83.2 | 81.5 | 78.1 | 73.1 | 69.0 | 167.5 |
| 1250 | 77.4 | 81.3 | 88.4 | 82.7 | 83.9 | 83.9 | 82.5 | 81.5 | 81.4 | 79.2 | 76.0 | 71.1 | 65.6 | 166.0 | | 1250 | 77.4 | 81.3 | 88.4 | 82.7 | 83.9 | 83.9 | 82.5 | 81.5 | 81.4 | 79.2 | 76.0 | 71.1 | 65.6 | 166.0 |
| 1500 | 76.2 | 79.3 | 87.4 | 81.5 | 82.0 | 81.8 | 80.9 | 79.3 | 80.1 | 77.1 | 73.1 | 68.7 | 62.2 | 165.8 | 1500 | 76.2 | 79.3 | 87.4 | 81.5 | 82.0 | 81.8 | 80.9 | 79.3 | 80.1 | 77.1 | 73.1 | 68.7 | 62.2 | 165.8 | |
| 2000 | 72.7 | 76.7 | 84.9 | 79.3 | 79.1 | 79.7 | 78.8 | 76.7 | 74.9 | 72.2 | 70.0 | 64.9 | 57.0 | 164.3 | 2000 | 72.7 | 76.7 | 84.9 | 79.3 | 79.1 | 79.7 | 78.8 | 76.7 | 74.9 | 72.2 | 70.0 | 64.9 | 57.0 | 164.3 | |
| 2500 | 68.0 | 73.2 | 81.1 | 76.1 | 76.1 | 76.7 | 75.2 | 73.8 | 70.9 | 70.4 | 65.0 | 60.9 | 53.2 | 163.9 | 2500 | 68.0 | 73.2 | 81.1 | 76.1 | 76.1 | 76.7 | 75.2 | 73.8 | 70.9 | 70.4 | 65.0 | 60.9 | 53.2 | 163.9 | |
| 3150 | 62.1 | 67.6 | 76.0 | 71.7 | 72.2 | 73.8 | 73.2 | 70.9 | 70.4 | 65.0 | 60.9 | 53.2 | 38.4 | 163.9 | 3150 | 62.1 | 67.6 | 76.0 | 71.7 | 72.2 | 73.8 | 73.2 | 70.9 | 70.4 | 65.0 | 60.9 | 53.2 | 38.4 | 163.9 | |
| 4000 | 51.0 | 59.8 | 64.5 | 65.7 | 67.1 | 67.0 | 64.7 | 64.6 | 55.6 | 52.0 | 41.8 | 20.3 | 163.7 | 4000 | 51.0 | 59.8 | 64.5 | 65.7 | 67.1 | 67.0 | 64.7 | 64.6 | 55.6 | 52.0 | 41.8 | 20.3 | 163.7 | | | |
| 5000 | 36.0 | 47.5 | 57.3 | 54.3 | 56.9 | 58.5 | 58.0 | 55.6 | 54.1 | 45.7 | 38.6 | 24.8 | 163.4 | 5000 | 36.0 | 47.5 | 57.3 | 54.3 | 56.9 | 58.5 | 58.0 | 55.6 | 54.1 | 45.7 | 38.6 | 24.8 | 163.4 | | | |
| 6300 | 13.3 | 29.2 | 41.3 | 39.5 | 42.8 | 45.3 | 44.0 | 39.8 | 39.3 | 26.8 | 17.4 | | 164.0 | 6300 | 13.3 | 29.2 | 41.3 | 39.5 | 42.8 | 45.3 | 44.0 | 39.8 | 39.3 | 26.8 | 17.4 | | 164.0 | | | |
| 8000 | 2.0 | 14.1 | 15.2 | 22.3 | 23.8 | 22.2 | 16.5 | 13.6 | | | | | 165.2 | 8000 | 2.0 | 14.1 | 15.2 | 22.3 | 23.8 | 22.2 | 16.5 | 13.6 | | | | | 165.2 | | | |
| 10000 | 2.0 | 14.1 | 15.2 | 22.3 | 23.8 | 22.2 | 16.5 | 13.6 | | | | | 165.2 | 10000 | 2.0 | 14.1 | 15.2 | 22.3 | 23.8 | 22.2 | 16.5 | 13.6 | | | | | 165.2 | | | |
| 12500 | 2.0 | 14.1 | 15.2 | 22.3 | 23.8 | 22.2 | 16.5 | 13.6 | | | | | 165.2 | 12500 | 2.0 | 14.1 | 15.2 | 22.3 | 23.8 | 22.2 | 16.5 | 13.6 | | | | | 165.2 | | | |
| 15000 | 2.0 | 14.1 | 15.2 | 22.3 | 23.8 | 22.2 | 16.5 | 13.6 | | | | | 165.2 | 15000 | 2.0 | 14.1 | 15.2 | 22.3 | 23.8 | 22.2 | 16.5 | 13.6 | | | | | 165.2 | | | |
| 20000 | 2.0 | 14.1 | 15.2 | 22.3 | 23.8 | 22.2 | 16.5 | 13.6 | | | | | 165.2 | 20000 | 2.0 | 14.1 | 15.2 | 22.3 | 23.8 | 22.2 | 16.5 | 13.6 | | | | | 165.2 | | | |
| 25000 | 2.0 | 14.1 | 15.2 | 22.3 | 23.8 | 22.2 | 16.5 | 13.6 | | | | | 165.2 | 25000 | 2.0 | 14.1 | 15.2 | 22.3 | 23.8 | 22.2 | 16.5 | 13.6 | | | | | 165.2 | | | |
| 31500 | 2.0 | 14.1 | 15.2 | 22.3 | 23.8 | 22.2 | 16.5 | 13.6 | | | | | 165.2 | 31500 | 2.0 | 14.1 | 15.2 | 22.3 | 23.8 | 22.2 | 16.5 | 13.6 | | | | | 165.2 | | | |
| 40000 | 2.0 | 14.1 | 15.2 | 22.3 | 23.8 | 22.2 | 16.5 | 13.6 | | | | | 165.2 | 40000 | 2.0 | 14.1 | 15.2 | 22.3 | 23.8 | 22.2 | 16.5 | 13.6 | | | | | 165.2 | | | |
| 50000 | 2.0 | 14.1 | 15.2 | 22.3 | 23.8 | 22.2 | 16.5 | 13.6 | | | | | 165.2 | 50000 | 2.0 | 14.1 | 15.2 | 22.3 | 23.8 | 22.2 | 16.5 | 13.6 | | | | | 165.2 | | | |
| 63000 | 2.0 | 14.1 | 15.2 | 22.3 | 23.8 | 22.2 | 16.5 | 13.6 | | | | | 165.2 | 63000 | 2.0 | 14.1 | 15.2 | 22.3 | 23.8 | 22.2 | 16.5 | 13.6 | | | | | 165.2 | | | |
| 80000 | 2.0 | 14.1 | 15.2 | 22.3 | 23.8 | 22.2 | 16.5 | 13.6 | | | | | 165.2 | 80000 | 2.0 | 14.1 | 15.2 | 22.3 | 23.8 | 22.2 | 16.5 | 13.6 | | | | | 165.2 | | | |
| NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514 | | | | | | | | | | | | | | | MODEL AREA = 163.1 SQ CM (25.3 SQ IN)
SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)
DIAMETER RATIO = 7.442
FREQ SHIFT = -9 | | | | | | | | | | | | | | | |
| VEHCL = ADH079
IAPLHA = SB59
WIND DIR = DEG
WIND VEL = MPH
TEST DATE = 08-24-81
LOCAL = C41 ANECH CH
PWL AREA = FULL SPHERE
EXT DIST = 2400.0 FT
EXT CONFID = SL
TAMB F = 85.00
PAMB HG = 29.71
RELHUM = 41.7 PCT
FLTVEL = 400. FPS | | | | | | | | | | | | | | | FNNI =
LBS XNL
RPM
XNH
RPM
V8
= 1734.3 FPS
AE8
= 25.3 SQ IN
O. SQ IN
RPM
CORR FAN SPEED = | | | | | | | | | | | | | | | |
| RNP1 = 01
0-1422 TAPE
= X14221
TEST PT NO = 1422
NC
= 862 | | | | | | | | | | | | | | | RPM | | | | | | | | | | | | | | | |

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-1466 X1466C
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREQ 50 63 80 100 125 160 200 250 315 400 500 630 800 1000 1250 1600 2000 2500 3150 4000 5000 6300 8000

| | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 80000 | 60.9 | 67.8 | 67.1 | 67.7 | 69.2 | 71.1 | 71.4 | 68.9 | 72.3 | 68.0 | 64.6 | 54.8 | 142.8 |
| 63000 | 65.2 | 70.1 | 70.2 | 72.5 | 73.5 | 75.7 | 76.2 | 74.7 | 76.7 | 72.3 | 69.9 | 61.8 | 140.5 |
| 50000 | 70.2 | 73.2 | 73.4 | 75.2 | 76.9 | 79.6 | 79.5 | 78.2 | 80.1 | 76.3 | 73.3 | 65.7 | 138.6 |
| 40000 | 73.7 | 77.4 | 78.0 | 78.6 | 80.7 | 82.8 | 82.4 | 83.6 | 79.4 | 80.5 | 77.6 | 70.5 | 137.9 |
| 31500 | 77.4 | 81.3 | 80.8 | 81.9 | 83.1 | 86.2 | 86.1 | 85.8 | 85.8 | 84.1 | 83.2 | 80.5 | 137.0 |
| 25000 | 82.2 | 84.9 | 84.9 | 85.4 | 87.2 | 89.6 | 89.6 | 88.5 | 89.1 | 87.9 | 86.4 | 84.3 | 137.3 |
| 20000 | 86.6 | 87.9 | 87.8 | 89.1 | 91.8 | 91.7 | 92.1 | 92.5 | 90.8 | 89.7 | 87.3 | 82.7 | 137.8 |
| 16000 | 88.8 | 90.7 | 90.9 | 91.5 | 92.1 | 94.3 | 94.4 | 95.2 | 93.6 | 92.8 | 90.1 | 85.3 | 138.9 |
| 12500 | 91.7 | 93.4 | 93.5 | 94.5 | 95.2 | 96.5 | 96.2 | 95.7 | 97.8 | 97.1 | 95.8 | 92.5 | 139.8 |
| 10000 | 93.8 | 95.1 | 95.1 | 96.1 | 96.3 | 98.3 | 98.3 | 96.9 | 97.8 | 99.4 | 98.0 | 94.0 | 140.8 |
| 8000 | 95.3 | 96.7 | 96.4 | 97.1 | 97.1 | 98.6 | 98.6 | 98.9 | 101.4 | 102.0 | 99.1 | 95.2 | 141.6 |
| 6300 | 96.6 | 98.8 | 97.5 | 98.2 | 98.6 | 100.6 | 100.6 | 103.1 | 103.0 | 101.3 | 96.6 | 90.4 | 142.4 |
| 5000 | 97.7 | 98.8 | 98.0 | 97.8 | 98.2 | 99.1 | 101.6 | 103.9 | 103.3 | 103.9 | 97.4 | 91.7 | 142.9 |
| 4000 | 99.0 | 99.3 | 98.3 | 98.3 | 98.1 | 101.5 | 103.3 | 103.7 | 104.5 | 103.7 | 98.7 | 92.6 | 143.5 |
| 3150 | 99.5 | 99.6 | 98.6 | 98.9 | 102.5 | 103.4 | 101.9 | 103.2 | 105.9 | 106.2 | 99.4 | 93.1 | 144.4 |
| 2500 | 99.7 | 100.7 | 100.2 | 101.8 | 105.0 | 102.8 | 100.3 | 102.4 | 107.1 | 106.4 | 101.2 | 94.5 | 145.3 |
| 2000 | 101.9 | 104.3 | 103.7 | 104.4 | 104.5 | 102.3 | 98.0 | 98.6 | 103.0 | 108.2 | 107.8 | 102.9 | 146.0 |
| 1600 | 105.5 | 104.8 | 105.1 | 104.9 | 100.9 | 96.6 | 97.5 | 99.2 | 102.6 | 107.5 | 110.9 | 104.7 | 146.6 |
| 1250 | 101.5 | 96.3 | 94.8 | 94.4 | 94.3 | 96.2 | 98.6 | 101.8 | 107.9 | 111.7 | 106.9 | 97.7 | 145.6 |
| 1000 | 93.2 | 92.8 | 90.8 | 91.1 | 92.4 | 93.8 | 95.7 | 97.3 | 101.3 | 107.6 | 113.0 | 109.2 | 145.9 |
| 800 | 90.2 | 92.5 | 91.0 | 90.8 | 93.4 | 93.3 | 94.1 | 97.0 | 101.3 | 107.8 | 114.0 | 111.6 | 146.9 |
| 630 | 84.8 | 87.1 | 86.6 | 87.4 | 89.2 | 90.9 | 93.5 | 96.4 | 99.6 | 108.4 | 114.1 | 113.0 | 147.4 |
| 500 | 87.0 | 86.5 | 87.8 | 89.1 | 91.5 | 93.6 | 96.8 | 101.3 | 108.6 | 113.5 | 114.1 | 107.6 | 147.6 |
| 400 | 83.8 | 85.4 | 85.6 | 87.7 | 90.6 | 92.8 | 95.9 | 100.6 | 108.0 | 111.8 | 114.0 | 110.4 | 147.1 |
| 315 | 82.1 | 85.1 | 84.9 | 85.9 | 87.5 | 90.9 | 92.8 | 94.9 | 104.5 | 108.8 | 112.3 | 111.4 | 145.3 |
| 250 | 81.8 | 85.3 | 84.8 | 86.1 | 87.7 | 89.1 | 91.2 | 93.1 | 100.7 | 106.8 | 110.7 | 111.1 | 143.8 |
| 200 | 83.3 | 82.8 | 84.6 | 86.0 | 88.6 | 89.5 | 91.6 | 94.8 | 96.2 | 101.0 | 107.0 | 109.6 | 140.7 |
| 160 | 83.3 | 81.1 | 85.3 | 85.1 | 85.2 | 86.6 | 88.0 | 87.9 | 90.3 | 94.7 | 100.0 | 104.0 | 138.5 |
| 125 | 85.1 | 88.1 | 88.4 | 89.7 | 90.5 | 92.4 | 92.3 | 91.4 | 92.2 | 93.7 | 99.6 | 103.8 | 135.1 |
| 100 | 88.1 | 92.1 | 87.9 | 88.9 | 90.6 | 92.0 | 93.2 | 91.6 | 92.2 | 95.1 | 99.5 | 102.4 | 135.6 |
| 80 | 88.8 | 93.1 | 87.6 | 88.6 | 89.5 | 92.1 | 92.2 | 91.1 | 93.3 | 92.4 | 93.8 | 96.2 | 134.6 |
| 63 | 86.7 | 86.5 | 87.0 | 86.3 | 86.7 | 88.0 | 87.4 | 87.6 | 91.3 | 91.4 | 92.5 | 92.4 | 132.1 |
| 50 | 85.9 | 85.0 | 81.2 | 80.3 | 80.9 | 82.0 | 81.9 | 82.3 | 83.7 | 86.6 | 91.9 | 91.4 | 129.3 |

PWL

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VEHICL = ADH052 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 400. FPS
IAPLHA = SB59 DEO WIND VEL = NO MPH EXT DIST = 40.0 FT PML AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.70 RELHUM = 44.5 PCT
FNIN1 = LBS XNL = RPM XNHR = RPM V8 = 1802.1 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNL = RPM XNHR = RPM V8 = 1802.1 FPS AE8 = 25.3 SQ IN
CORR FAN SPEED = RPM

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

DBA 111.3 112.0 111.1 111.4 111.1 111.5 111.0 111.6 114.0 118.2 121.3 118.9 112.8
PNLT 125.1 125.1 125.0 125.3 124.5 125.9 125.2 125.7 127.5 130.7 132.2 129.8 125.5
GASPL 110.7 111.5 110.7 111.0 110.8 111.4 111.2 111.9 114.4 118.8 122.4 121.7 118.7 158.4

IDENTIFICATION - 81F-400-1466 X1466F

ANGLES MEASURED FROM INLET, DEGREES

| | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|
| 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
| PWL | | | | | | | | | | | | |

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-1466 X14661

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160 PWL

67.8 71.0 70.4 70.6 71.3 72.7 73.2 74.5 80.1 85.8 89.0 88.7 82.2 163.6
63 69.5 71.4 72.7 73.7 74.6 76.4 79.0 86.5 90.8 89.5 82.3 164.6
60 69.5 72.9 72.0 72.5 72.9 73.1 74.5 80.6 85.9 91.0 89.3 80.1 164.5
100 70.1 72.8 72.0 72.1 76.7 75.5 75.0 76.4 81.2 86.4 90.9 88.2 81.7 164.4
125 73.3 76.5 75.2 74.7 75.6 76.1 76.7 76.9 81.7 86.5 85.9 80.4 163.5
160 76.8 76.8 74.8 74.7 77.8 76.9 77.2 78.1 82.5 86.3 88.8 83.7 80.2 163.1
200 66.3 67.5 61.3 79.2 84.2 79.0 78.6 78.8 82.8 86.8 85.5 81.6 77.8 164.3
250 69.4 69.3 69.4 68.6 67.7 64.8 79.0 78.1 83.0 86.3 84.8 80.5 77.2 166.9
315 83.4 67.1 67.0 67.7 66.8 67.5 60.4 63.6 65.0 64.3 78.4 75.3 165.8
400 83.3 85.2 84.9 86.0 83.0 85.2 85.1 81.9 84.8 84.1 82.1 77.7 74.5 165.0
500 81.1 82.7 82.3 82.5 81.5 82.6 83.7 83.9 84.4 82.8 80.9 75.4 72.3 163.8
630 78.9 81.0 81.0 81.4 81.9 81.8 81.2 81.9 83.6 81.8 78.7 74.2 70.3 162.9
800 77.7 80.8 81.0 81.1 81.7 81.5 80.5 80.8 82.1 81.0 76.6 72.8 68.8 162.8
1000 76.5 80.8 80.4 81.0 80.7 81.4 80.3 79.2 80.6 79.6 75.8 71.5 67.3 162.6
1250 75.8 79.0 79.6 80.4 79.8 81.0 78.8 78.2 79.3 76.9 73.8 69.3 64.1 162.1
1500 73.5 76.7 77.7 78.8 78.8 78.8 76.0 77.0 73.2 69.7 65.4 59.5 161.2
1600 69.8 74.0 75.1 76.4 76.5 75.1 76.5 75.6 75.1 73.2 69.2 65.1 56.8 160.2
2000 69.8 74.0 75.1 76.4 76.5 75.1 76.5 75.6 75.1 73.2 69.2 65.1 56.8 160.2
2500 64.7 69.6 71.3 72.4 72.0 73.5 72.0 70.6 70.5 66.8 62.1 56.8 46.0 159.2
3150 58.6 63.8 65.7 67.8 68.3 69.9 68.9 66.3 66.4 61.8 56.8 49.4 35.1 158.9
4000 47.1 55.2 58.2 60.1 61.2 63.7 62.6 60.5 61.3 53.3 48.9 38.7 21.5 159.4
5000 31.7 43.2 47.1 50.3 53.8 55.4 54.8 51.7 51.8 42.9 36.1 16.1 160.5
6300 9.8 24.7 31.8 35.8 40.5 42.4 40.9 36.7 37.0 25.3 16.1 162.1 162.6

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MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/MAS3-22514

VEHICL = ADH052 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CONFIG = 4
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 80.00 MODEL = 4
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = 29.70 PAMB HG = 44.5 PCT
FLVEL = 400. FPS RELHUM = 44.5 PCT NBFR =

FNINI = LBS XNLR = RPM XNHR = RPM V8 = 1802.1 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 1802.1 FPS AE8 = 25.3 SQ IN

RUNPT = 81F-400-1466 TAPE = X14661 TEST PT NO = 1466 NC = 861 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-1468
BACKGROUND 81F-400-0400 X1468C X04000

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | PWL |
|---|----------------------|----------------------|------------|-----------|-----------------|-------------------|--------|-------------------|----------------|-----------|-------|-----------------|--------------------|------------------------|
| 50 | 87.2 | 85.7 | 81.5 | 81.3 | 81.6 | 82.7 | 82.6 | 86.3 | 87.7 | 87.1 | 96.2 | 95.4 | 98.3 | 131.7 |
| 63 | 87.5 | 87.0 | 86.8 | 85.8 | 87.7 | 88.5 | 87.7 | 90.3 | 92.8 | 91.4 | 99.5 | 98.7 | 99.1 | 134.8 |
| 80 | 89.8 | 89.6 | 88.8 | 89.6 | 90.7 | 92.8 | 93.2 | 92.9 | 94.1 | 92.9 | 95.3 | 97.7 | 100.4 | 135.7 |
| 100 | 89.1 | 89.6 | 89.1 | 90.2 | 91.2 | 92.4 | 93.5 | 94.7 | 93.4 | 93.7 | 96.6 | 101.5 | 103.7 | 137.2 |
| 125 | 86.4 | 89.4 | 89.7 | 90.9 | 92.3 | 94.2 | 93.8 | 92.9 | 93.7 | 95.7 | 101.9 | 105.3 | 107.7 | 139.9 |
| 160 | 84.5 | 82.6 | 86.6 | 86.6 | 86.7 | 88.1 | 89.2 | 89.4 | 91.8 | 96.2 | 101.8 | 105.7 | 108.9 | 139.9 |
| 200 | 84.5 | 84.3 | 85.1 | 84.9 | 87.0 | 89.3 | 90.2 | 93.1 | 96.6 | 97.9 | 103.0 | 108.5 | 111.4 | 142.3 |
| 250 | 83.3 | 86.6 | 85.8 | 87.4 | 88.5 | 90.1 | 92.2 | 94.6 | 96.8 | 102.7 | 108.5 | 112.2 | 112.6 | 145.3 |
| 315 | 83.3 | 86.1 | 85.6 | 86.9 | 88.8 | 91.9 | 94.0 | 95.9 | 99.9 | 106.5 | 110.3 | 113.8 | 112.9 | 146.8 |
| 400 | 85.6 | 86.9 | 87.6 | 87.7 | 89.0 | 92.6 | 94.0 | 98.2 | 103.4 | 111.0 | 114.3 | 116.0 | 112.2 | 149.4 |
| 500 | 85.5 | 88.2 | 88.3 | 89.5 | 91.1 | 93.3 | 95.4 | 98.5 | 104.0 | 112.3 | 116.5 | 115.9 | 109.3 | 150.3 |
| 630 | 86.6 | 89.1 | 89.7 | 91.5 | 93.9 | 96.2 | 98.7 | 103.6 | 112.9 | 117.8 | 115.8 | 106.9 | 150.9 | |
| 800 | 89.2 | 89.5 | 90.8 | 92.6 | 94.8 | 96.1 | 98.8 | 104.0 | 113.1 | 118.0 | 113.9 | 102.8 | 150.6 | |
| 1000 | 93.2 | 93.8 | 91.8 | 92.8 | 93.4 | 95.5 | 97.7 | 99.3 | 104.3 | 112.6 | 117.2 | 112.4 | 101.8 | 149.9 |
| 1250 | 98.2 | 100.5 | 95.8 | 95.1 | 96.4 | 97.0 | 98.2 | 100.6 | 105.0 | 112.6 | 117.7 | 111.7 | 101.4 | 150.3 |
| 1600 | 104.8 | 104.1 | 102.3 | 99.9 | 97.8 | 97.9 | 97.6 | 100.5 | 102.2 | 106.3 | 112.7 | 115.0 | 108.6 | 149.4 |
| 2000 | 102.2 | 104.8 | 103.5 | 103.4 | 102.2 | 99.6 | 99.0 | 101.6 | 106.7 | 112.7 | 115.0 | 108.6 | 100.6 | 149.4 |
| 2500 | 99.2 | 101.0 | 100.7 | 102.5 | 103.8 | 103.7 | 101.5 | 101.8 | 105.9 | 111.8 | 113.4 | 107.2 | 99.2 | 148.5 |
| 3150 | 98.5 | 99.3 | 97.8 | 99.1 | 100.7 | 104.0 | 103.5 | 104.0 | 106.4 | 109.5 | 110.7 | 105.2 | 97.6 | 147.9 |
| 4000 | 98.0 | 98.3 | 97.3 | 97.5 | 98.4 | 100.8 | 103.5 | 104.0 | 106.4 | 109.5 | 110.7 | 105.2 | 97.6 | 146.8 |
| 5000 | 96.7 | 98.0 | 96.8 | 97.3 | 98.2 | 99.7 | 100.8 | 103.4 | 105.9 | 108.6 | 109.3 | 103.6 | 96.5 | 145.9 |
| 6300 | 95.9 | 97.8 | 96.7 | 97.5 | 98.4 | 99.1 | 100.6 | 102.8 | 105.6 | 107.0 | 108.0 | 102.8 | 95.2 | 145.2 |
| 8000 | 94.2 | 95.9 | 96.8 | 97.1 | 98.6 | 99.5 | 101.4 | 104.1 | 106.3 | 105.6 | 101.2 | 94.2 | 144.2 | |
| 10000 | 93.6 | 94.8 | 95.6 | 95.8 | 96.8 | 98.1 | 98.7 | 100.0 | 102.7 | 104.3 | 105.0 | 99.7 | 94.3 | 143.6 |
| 12500 | 91.2 | 92.7 | 93.0 | 93.7 | 95.2 | 96.7 | 96.9 | 97.7 | 100.8 | 101.9 | 102.3 | 98.5 | 92.3 | 142.3 |
| 16000 | 87.8 | 89.7 | 89.9 | 91.0 | 92.1 | 94.0 | 95.4 | 96.7 | 98.6 | 99.0 | 95.8 | 93.0 | 141.1 | |
| 20000 | 85.1 | 86.9 | 87.3 | 88.5 | 89.1 | 91.6 | 92.7 | 94.9 | 95.3 | 96.2 | 93.0 | 87.4 | 139.8 | |
| 25000 | 81.4 | 83.8 | 84.6 | 86.5 | 86.0 | 90.1 | 89.5 | 91.3 | 92.1 | 92.4 | 89.5 | 83.3 | 138.9 | |
| 31500 | 76.6 | 80.0 | 79.6 | 80.6 | 83.1 | 85.7 | 86.1 | 86.6 | 88.3 | 88.1 | 89.7 | 85.0 | 138.5 | |
| 40000 | 72.7 | 76.1 | 77.0 | 77.3 | 80.0 | 82.3 | 83.0 | 83.4 | 85.8 | 83.1 | 87.6 | 81.6 | 139.4 | |
| 50000 | 69.2 | 72.0 | 72.4 | 73.5 | 75.7 | 79.2 | 79.2 | 78.8 | 81.1 | 80.1 | 83.8 | 77.3 | 139.8 | |
| 63000 | 64.5 | 69.4 | 69.3 | 70.8 | 72.6 | 74.7 | 75.8 | 74.5 | 77.2 | 76.1 | 79.9 | 73.2 | 141.3 | |
| 80000 | 60.5 | 66.6 | 66.9 | 68.0 | 69.9 | 70.0 | 68.3 | 72.9 | 71.9 | 74.3 | 67.4 | 56.8 | 143.2 | |
| QASPL | 110.0 | 111.2 | 109.8 | 110.1 | 110.6 | 111.7 | 112.3 | 113.7 | 117.3 | 123.1 | 127.0 | 124.3 | 120.5 | 161.4 |
| PNL | 122.4 | 124.0 | 122.8 | 123.5 | 124.4 | 125.7 | 126.0 | 127.1 | 130.3 | 135.0 | 137.8 | 133.5 | 128.2 | |
| PWLT | 123.9 | 124.0 | 122.8 | 123.5 | 125.0 | 126.3 | 126.0 | 127.1 | 130.3 | 135.0 | 137.8 | 133.5 | 128.2 | |
| DBA | 110.5 | 111.6 | 110.2 | 110.4 | 110.7 | 111.6 | 112.1 | 113.3 | 117.1 | 122.8 | 126.5 | 122.2 | 115.2 | |
| NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514 | | | | | | | | | | | | | | |
| VEHICL = ADH051 | TEST DATE = 08-19-81 | LOCAT = C41 ANECH CH | CONFIG = 4 | MODEL = 4 | PAMB HG = 29.50 | RELHUM = 44.6 PCT | NBFR = | FLTVEL = 400. FPS | TAMB F = 80.00 | MIKE HT = | ARC | EXT CNFIG = ARC | EXT DIST = 40.0 FT | PWL AREA = FULL SPHERE |
| WIND DIR = | DEG | WIND VEL = | MPH | NO | LEG | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| FNIN1 = | LBS | XNL | RPM | XNH | RPM | XNHR | RPM | V8 | FPS | AE8 | FPS | AE18 | FPS | AE18 |
| FNRAMB = | LBS | XNLR | RPM | XNHR | RPM | V8 | FPS | AE8 | FPS | AE18 | FPS | AE18 | FPS | AE18 |
| FNIN1 = | LBS | XNL | RPM | XNH | RPM | V8 | FPS | AE8 | FPS | AE18 | FPS | AE18 | FPS | AE18 |
| FNRAMB = | LBS | XNLR | RPM | XNHR | RPM | V8 | FPS | AE8 | FPS | AE18 | FPS | AE18 | FPS | AE18 |
| TEST PT NO = 1468 | NC = 861 | CORR FAN SPEED = | RPM | | | | | | | | | | | |
| RUNPT = 81F-400-1468 | TAPE | | | | | | | | | | | | | |

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412

ANGLES MEASURED FROM INLET, DEGREES

IDENTIFICATION - 81F-400-1468 X1468F

| | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|
| 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|

FREQ
50
63
80
100
125
160

[illegible]

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| | | |
|---|--|------------------------------|
| MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 | FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 | REFR CORR YES, TURB CORR YES |
|---|--|------------------------------|

NASA SHOCK CELL/ANNULAR C-D PLUG NGZ. SC-4/NAS3-22514

[illegible]

RUNPT = 81F-400-1468 TAPE = X1468F TEST PT NO = 1468 NC = 861 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-1468 X14681

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

69.0 72.0 71.2 72.6 74.7 74.9 77.4 83.1 89.9 92.6 91.2 84.8 166.6

63 71.2 72.8 73.2 72.4 74.7 75.4 76.4 78.2 82.6 90.5 94.1 92.0 84.4 167.6

80 71.0 74.1 73.8 74.3 75.1 76.1 77.1 78.0 83.1 90.8 94.6 91.2 82.9 167.6

100 72.1 74.9 74.6 76.3 77.0 76.9 78.0 83.9 91.0 94.8 91.2 84.5 167.9

125 74.6 75.2 75.0 76.6 77.6 78.7 84.6 90.9 95.2 90.3 84.0 168.1

160 75.8 77.2 75.5 76.3 79.6 79.4 79.1 79.9 86.0 90.4 89.4 83.7 168.0

200 82.4 85.1 80.2 78.9 81.3 80.3 81.5 81.6 86.5 91.2 92.7 87.3 83.0 167.5

250 89.1 88.9 87.0 83.9 85.4 82.1 80.0 81.1 85.8 90.5 91.1 85.9 81.4 168.2

315 84.9 88.3 87.1 86.7 87.6 86.3 82.7 81.3 86.0 89.4 90.8 85.1 80.2 168.2

400 82.8 85.5 85.4 86.7 84.5 86.7 84.9 82.0 86.9 88.5 88.5 81.6 78.8 167.4

500 81.6 83.5 82.3 83.2 82.2 83.8 85.0 84.0 86.0 87.2 86.6 81.4 76.7 166.2

630 79.5 81.4 81.1 81.4 82.2 82.8 82.4 83.2 85.5 85.2 84.9 79.9 74.4 165.3

800 78.1 81.1 80.6 81.2 82.1 82.0 81.9 82.3 84.0 84.4 82.3 77.9 72.6 164.7

1000 77.0 80.3 81.1 80.7 81.4 80.7 80.8 83.1 83.0 82.0 76.5 72.1 164.6

1250 75.0 78.4 79.2 80.2 80.3 80.7 80.2 79.8 81.5 80.8 79.4 74.9 69.0 163.9

1600 73.2 76.5 77.2 78.6 78.4 79.1 78.3 77.4 79.7 77.8 75.6 71.1 64.6 162.8

2000 69.3 73.2 74.6 75.7 75.1 76.3 76.8 76.1 74.0 72.0 66.7 58.7 161.6

2500 63.7 68.6 70.3 71.9 71.5 73.3 73.6 72.8 72.3 70.4 67.4 61.4 50.8 160.5

3150 57.1 62.8 65.2 67.3 67.6 69.4 69.5 67.2 68.1 64.7 62.3 53.2 39.6 160.0

4000 46.3 54.5 57.1 59.3 61.8 63.2 62.5 60.8 62.2 55.5 54.4 41.4 22.0 160.0

5000 33.7 44.2 47.5 50.2 53.6 54.9 54.3 51.9 51.1 44.6 40.6 23.3

6300 11.6 25.7 32.5 35.7 39.3 41.9 40.3 36.1 35.9 27.2 19.7

8000 162.0 160.9 160.1

10000 161.9

12500

16000

20000

25000

31500

40000

50000

63000

80000

QASPL 93.0 94.9 93.6 93.9 93.9 93.2 92.9 96.8 101.0 103.6 99.7 93.4 179.4

PWL 99.6 100.3 100.6 100.5 101.5 100.1 99.6 103.0 104.4 105.4 100.3 94.6

DBA 87.6 90.0 89.5 90.1 90.0 90.5 90.0 89.6 92.0 92.9 93.0 88.0 82.8

MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICLE = ADH051 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.50 RELHUM = 44.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH XNHR RPM = V8 = 2028.8 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNLR RPM XNHR RPM = V8 = 2028.8 FPS AE8 = 25.3 SQ IN

RUNPT = 8 10-1468 TAPE = X14681 TEST PT NO = 1468 NC = 861 CORR FAN SPEED = RPM

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

ANGLES MEASURED FROM INLET, DEGREES

IDENTIFICATION - MODEL 81F-400-1470 X1470C
BACKGROUND 81F-400-0400 X04000

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 88.2 89.7 82.0 82.5 82.6 83.5 83.4 86.8 88.5 88.3 96.9 95.9 99.0 132.5
63 88.2 90.3 87.8 88.8 88.9 89.8 90.1 94.0 92.6 100.2 98.4 100.1 135.5
80 91.0 93.3 89.8 90.9 92.0 94.1 94.5 93.9 95.3 96.5 99.0 102.4 136.9
100 90.1 92.1 90.1 91.4 92.2 93.6 94.7 96.2 94.6 97.8 102.3 104.4 138.1
125 87.9 89.4 90.7 92.2 93.5 95.7 95.3 94.7 94.9 97.5 103.9 109.0 141.5
150 85.8 87.6 87.6 87.7 89.3 90.5 90.9 93.8 98.7 104.0 107.2 110.4 141.6
160 85.8 87.6 87.6 87.7 89.3 90.5 90.9 93.8 98.7 104.0 107.2 110.4 141.6
200 86.0 87.6 85.8 85.1 88.0 90.6 92.0 94.6 98.3 99.9 112.9 143.9
250 84.8 86.9 86.6 87.9 89.5 92.6 94.8 96.9 100.9 108.5 111.8 115.3 148.4
315 84.8 86.9 86.6 87.9 89.5 92.6 94.8 96.9 100.9 108.5 111.8 115.3 148.4
400 87.1 88.1 88.4 89.2 90.0 93.9 95.8 99.4 105.4 113.0 115.8 116.5 150.6
500 86.7 89.0 89.5 91.0 92.1 94.8 97.1 99.6 106.0 114.1 117.7 119.6 151.5
630 86.1 90.1 90.4 91.4 93.0 95.4 98.2 101.9 106.6 114.1 117.7 119.6 151.5
800 90.7 92.2 90.8 91.8 93.6 95.5 98.1 101.3 106.5 116.3 120.2 115.4 153.0
1000 94.0 96.5 94.5 94.8 95.2 97.3 99.4 102.6 107.5 116.3 120.2 115.4 153.2
1250 97.0 99.3 97.0 96.8 97.9 99.9 100.2 102.8 108.3 116.6 121.0 113.7 153.5
1500 103.8 105.1 100.8 99.6 98.4 99.8 102.3 104.2 108.8 116.0 121.4 112.9 153.7
2000 102.2 103.1 103.5 102.4 100.7 99.6 101.0 104.4 109.7 116.7 119.8 112.1 153.0
2500 99.2 100.7 101.2 102.8 103.3 104.0 102.5 104.3 109.1 115.6 117.2 110.5 151.7
3150 97.0 98.3 98.3 99.6 102.0 104.5 103.9 104.4 109.2 114.9 117.2 108.9 151.2
4000 96.5 97.8 97.0 98.0 98.9 101.3 104.5 105.5 109.7 113.0 114.7 107.7 149.7
5000 95.7 97.3 96.5 96.8 98.0 99.7 102.1 105.4 108.6 112.3 113.8 106.1 148.9
6300 94.4 96.6 96.2 96.5 97.9 99.9 101.4 105.1 108.1 111.0 112.0 105.3 148.0
8000 93.0 95.7 94.9 96.1 96.8 98.9 101.0 103.9 107.4 110.0 109.6 103.5 147.1
10000 92.3 93.8 94.1 95.3 96.6 98.6 99.7 102.3 105.9 108.6 108.8 102.5 146.4
12500 90.7 91.7 93.0 93.5 95.0 97.9 100.2 103.8 107.3 107.7 94.5 145.3
15000 87.0 89.5 89.9 90.5 92.1 94.3 96.2 98.7 101.3 103.5 104.3 98.6 144.1
20000 84.4 86.6 86.6 88.3 89.6 92.1 93.2 95.3 97.7 100.6 102.0 95.8 143.0
25000 80.7 83.1 83.3 84.4 86.7 89.8 91.3 94.3 97.1 97.2 92.5 85.8 141.7
31500 75.6 79.0 79.1 80.4 82.3 85.7 86.8 87.8 91.3 93.8 93.8 88.0 141.6
40000 71.2 76.4 76.0 78.0 79.5 82.0 82.7 84.4 88.1 89.9 94.0 84.1 142.9
50000 67.5 75.0 71.4 72.5 74.9 78.4 79.2 79.7 84.3 88.1 92.0 80.3 144.7
63000 62.7 75.2 67.7 75.2 75.2 75.2 75.2 75.2 82.4 85.5 88.1 75.6 146.7
80000 59.5 74.8 66.1 65.2 67.0 69.1 69.5 69.0 76.3 81.1 85.3 69.6 149.7

GASPL 109.3 110.9 109.8 110.1 110.7 112.2 113.5 115.8 120.2 126.7 130.1 125.7 164.2
PNLT 121.9 123.7 124.4 126.3 127.2 129.0 133.2 138.7 141.5 135.8 130.0
DBA 109.8 111.2 110.1 110.3 110.7 112.0 113.3 115.5 120.0 126.5 130.0 124.0 117.0

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICLE = ADH050 TEST DATE = 08-19-81 LOCAL AREA = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 400. FPS
IAPLHA = SB59 DEG WIND VEL = NO MPH EXT DIST = 40.0 FT PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.60 RELHUM = 44.5 PCT
WIND DIR = SB59 DEG WIND VEL = NO MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = 25.3 SQ IN NBFR =

FNINI = LBS XNL = RPM XNHR = RPM V6 = 2208.2 FPS AE18 = 0. SQ IN
FNFRMB = LBS XNL = RPM XNHR = RPM V6 = 2208.2 FPS AE18 = 0. SQ IN

RUNPT = 81F-400-1470 TAPE = X1470C TEST PT NO = 1470 NC = 861 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - B1F-400-1470 X1470F

ANGLES MEASURED FROM INLET, DEGREES

200 250 315 400 500 630 800 1000 1250 1500 1750 2000 2250 2500 2750 3000 3250 3500 3750 4000 4250 4500 4750 5000 5250 5500 5750 6000 6250 6500 6750 7000 7250 7500 7750 8000 8250 8500 8750 9000 9250 9500 9750 10000 10250 10500 10750 11000 11250 11500 11750 12000 12250 12500 12750 13000 13250 13500 13750 14000 14250 14500 14750 15000 15250 15500 15750 16000 16250 16500 16750 17000 17250 17500 17750 18000 18250 18500 18750 19000 19250 19500 19750 20000 20250 20500 20750 21000 21250 21500 21750 22000 22250 22500 22750 23000 23250 23500 23750 24000 24250 24500 24750 25000 25250 25500 25750 26000 26250 26500 26750 27000 27250 27500 27750 28000 28250 28500 28750 29000 29250 29500 29750 30000 30250 30500 30750 31000 31250 31500 31750 32000 32250 32500 32750 33000 33250 33500 33750 34000 34250 34500 34750 35000 35250 35500 35750 36000 36250 36500 36750 37000 37250 37500 37750 38000 38250 38500 38750 39000 39250 39500 39750 40000 40250 40500 40750 41000 41250 41500 41750 42000 42250 42500 42750 43000 43250 43500 43750 44000 44250 44500 44750 45000 45250 45500 45750 46000 46250 46500 46750 47000 47250 47500 47750 48000 48250 48500 48750 49000 49250 49500 49750 50000 50250 50500 50750 51000 51250 51500 51750 52000 52250 52500 52750 53000 53250 53500 53750 54000 54250 54500 54750 55000 55250 55500 55750 56000 56250 56500 56750 57000 57250 57500 57750 58000 58250 58500 58750 59000 59250 59500 59750 60000 60250 60500 60750 61000 61250 61500 61750 62000 62250 62500 62750 63000 63250 63500 63750 64000 64250 64500 64750 65000 65250 65500 65750 66000 66250 66500 66750 67000 67250 67500 67750 68000 68250 68500 68750 69000 69250 69500 69750 70000 70250 70500 70750 71000 71250 71500 71750 72000 72250 72500 72750 73000 73250 73500 73750 74000 74250 74500 74750 75000 75250 75500 75750 76000 76250 76500 76750 77000 77250 77500 77750 78000 78250 78500 78750 79000 79250 79500 79750 80000 80250 80500 80750 81000 81250 81500 81750 82000 82250 82500 82750 83000 83250 83500 83750 84000 84250 84500 84750 85000 85250 85500 85750 86000 86250 86500 86750 87000 87250 87500 87750 88000 88250 88500 88750 89000 89250 89500 89750 90000 90250 90500 90750 91000 91250 91500 91750 92000 92250 92500 92750 93000 93250 93500 93750 94000 94250 94500 94750 95000 95250 95500 95750 96000 96250 96500 96750 97000 97250 97500 97750 98000 98250 98500 98750 99000 99250 99500 99750 100000

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH050 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CNFIG = 4 MODEL = 4 FLTVL = 400. FPS
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 MIKE HT = 29.60 RELHUM = 44.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC NBFR =

FNINI = LBS XNL RPM XNHR XNH RPM V8 = 2208.2 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNLR RPM XNHR XNH RPM V8 = 2208.2 FPS AE8 = 25.3 SQ IN

RUNPT = 8 00-1470 TAPE = X1470F TEST PT NO = 1470 NC = 861 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-1470 X14701

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

63 72.7 74.0 73.9 75.7 77.6 79.0 81.0 85.4 93.8 95.9 92.3 85.4 169.2

80 72.3 74.9 75.0 76.6 77.6 79.6 81.0 85.4 93.8 95.9 92.4 84.5 169.6

100 73.6 75.9 75.9 76.1 77.2 78.9 80.4 86.9 94.4 98.0 92.6 86.8 170.6

125 74.9 77.2 75.7 76.2 78.3 79.6 80.2 81.7 87.6 94.6 98.1 92.0 86.0 170.8

160 76.4 79.8 78.2 78.3 81.1 81.4 81.0 82.0 88.3 94.2 98.6 91.3 86.5 171.2

200 79.7 82.8 80.7 80.3 81.7 82.3 83.2 83.4 89.3 94.9 97.1 90.5 85.8 170.9

250 87.9 89.8 85.4 83.5 83.9 82.1 81.9 83.7 89.0 94.1 95.3 89.1 85.1 170.7

315 85.0 86.6 87.1 85.5 83.6 83.7 89.1 93.4 94.7 87.2 85.7 81.1 169.5

400 82.7 85.2 85.8 86.9 85.7 87.2 85.1 83.8 89.9 91.7 92.2 85.7 81.1 169.5

500 80.1 82.5 82.8 83.7 82.8 84.3 86.0 85.4 88.6 90.7 90.8 83.5 79.1 168.5

630 79.1 81.6 81.3 82.2 82.0 82.8 83.6 85.0 87.8 89.0 88.6 82.1 76.9 167.5

800 77.7 80.7 80.6 81.7 82.8 82.6 84.5 87.1 88.0 86.0 79.9 75.7 166.9

1000 75.8 79.6 79.9 80.2 80.4 81.6 82.1 83.2 85.7 86.6 85.1 78.6 74.2 166.4

1250 73.8 78.2 78.2 79.4 80.1 81.2 80.7 81.5 83.6 84.0 83.4 76.3 70.7 165.5

1600 72.0 75.5 76.7 78.1 78.2 79.3 78.7 79.0 81.4 81.6 80.3 73.7 67.3 164.6

2000 68.8 72.2 74.6 75.4 76.1 76.5 76.8 77.5 77.9 78.6 77.6 69.7 62.4 163.8

2500 62.9 68.4 70.3 71.4 72.0 73.8 73.4 73.5 74.2 74.4 71.4 64.1 53.3 162.2

3150 56.4 61.8 64.5 67.1 68.4 69.9 69.5 67.8 69.8 69.1 66.3 55.1 41.7 161.7

4000 48.4 55.7 58.4 60.2 61.0 63.2 62.5 60.9 63.2 60.9 59.4 42.4 22.7 162.2

5000 32.7 43.2 47.0 49.9 53.1 54.7 53.3 51.8 53.4 51.5 47.4 24.4 163.1

6300 10.1 26.0 31.5 35.2 38.5 41.2 39.6 36.3 40.4 35.7 26.7 164.9

8000 4.6 10.7 16.4 19.2 17.5 12.5 14.5 7.9

10000 167.5

12500 167.5

16000 167.5

20000 167.5

25000 167.5

31500 167.5

40000 167.5

50000 167.5

63000 167.5

80000 167.5

QASPL 92.3 94.5 93.6 93.6 93.9 94.4 94.2 94.9 99.5 104.4 106.7 101.2 95.5 181.9

PNL 97.6 100.3 99.7 100.4 101.5 101.0 101.2 105.2 108.1 109.2 102.6 97.3

PMLT 98.5 101.1 100.3 100.9 100.4 101.5 101.0 101.2 105.9 108.8 109.2 102.6 97.3

DBA 86.8 89.5 89.4 89.9 90.0 90.9 90.8 91.4 94.5 96.5 96.9 90.2 85.5

MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH050 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONFIO = 4 MODEL = 4 FLTVEL = 400. FPS

IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.60 RELHUM = 44.5 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIO = SL MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 2208.2 FPS AEB = 25.3 SQ IN

FNFRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2208.2 FPS AEB = 0. SQ IN

RUNPT = 81F-400-1470 TAPE = X14701 TEST PT NO = 1470 NC = 861 CORR FAN SPEED = RPM

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IDENTIFICATION - 81F-ZER-7401 X7401F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 76.2 76.5 76.2 73.0 73.1 75.0 77.1 79.0 80.4 97.3 83.9 83.9 84.0 128.8

63 79.3 79.0 79.3 79.2 81.5 81.9 84.1 85.1 107.6 88.5 88.5 88.4 89.3 138.6

80 79.3 82.3 80.6 80.5 83.1 84.5 84.9 86.0 86.7 86.5 86.7 86.5 89.0 126.9

100 60.3 85.1 81.1 83.4 83.7 84.4 85.5 86.2 86.5 86.7 86.5 90.8 91.8 92.2 128.9

125 77.6 82.1 82.9 83.0 85.4 86.3 86.2 86.8 91.2 95.6 96.0 95.7 131.4

160 78.0 81.1 80.3 81.1 81.5 82.3 84.5 85.6 87.3 91.9 96.3 97.0 97.6 132.0

200 78.3 79.1 82.1 81.1 82.2 84.8 84.5 87.4 91.0 93.7 97.3 99.5 100.4 134.0

250 78.3 82.8 82.9 83.2 85.3 86.0 86.0 89.6 92.3 99.2 103.0 103.7 102.9 138.1

315 79.6 83.1 83.9 84.8 87.9 89.3 91.4 94.8 101.5 103.8 105.0 104.2 139.5

400 81.3 84.6 85.4 86.2 86.5 89.9 92.3 95.4 100.4 105.5 107.6 108.0 143.0

500 80.7 85.7 85.0 86.0 87.4 90.0 93.1 96.8 99.7 104.3 106.7 108.1 142.6

630 81.8 86.4 86.4 86.9 87.8 89.6 92.5 96.9 99.4 105.4 104.8 106.3 141.8

800 83.7 87.5 86.3 86.8 88.4 90.3 91.9 94.8 98.1 103.1 103.2 102.4 139.3

1000 86.0 87.5 87.0 87.3 88.2 90.8 92.4 94.3 97.9 101.6 101.7 100.2 138.1

1250 84.2 89.0 87.1 88.3 88.7 90.3 91.9 94.1 97.2 100.4 100.3 97.7 137.0

1600 84.7 87.1 87.6 88.7 89.3 90.3 91.5 94.1 96.8 99.2 98.8 96.0 136.2

2000 84.7 86.6 86.2 86.9 87.8 89.3 91.5 94.1 96.8 99.2 98.8 96.0 135.6

2500 83.9 86.2 87.5 87.8 89.0 90.2 92.3 94.3 96.0 98.3 95.9 93.2 135.1

3150 83.3 86.1 85.3 86.9 87.7 90.5 91.7 93.6 95.7 96.9 96.5 92.5 134.6

4000 83.0 84.8 85.5 87.0 87.6 89.3 91.5 93.0 94.8 95.0 95.2 91.9 133.9

5000 81.7 84.5 85.8 87.0 88.9 90.1 93.1 94.2 94.8 94.6 91.1 88.2 133.3

6300 80.6 84.3 84.2 85.0 86.4 88.9 90.4 92.6 93.3 93.5 94.5 90.5 133.0

8000 78.7 82.1 82.6 83.3 85.0 86.8 89.2 91.4 92.6 92.7 92.6 89.4 132.1

10000 77.8 80.8 81.8 83.3 84.8 87.9 90.2 91.6 91.2 91.9 88.4 85.5 131.8

12500 75.9 79.1 80.1 81.6 83.4 85.6 87.6 89.5 89.0 89.2 86.1 83.4 130.5

16000 73.1 77.0 77.8 78.3 79.9 82.6 84.3 86.6 87.4 86.1 83.7 80.7 129.4

20000 70.7 73.7 75.6 76.1 77.6 80.4 81.5 83.1 84.4 82.3 83.5 81.8 128.3

25000 66.4 71.1 71.3 72.6 75.0 79.1 79.3 80.9 78.8 79.9 79.3 73.0 127.4

31500 62.1 66.7 67.5 68.4 70.3 74.2 74.8 75.8 76.7 74.3 76.2 73.0 126.4

40000 57.6 63.0 63.9 64.7 67.1 69.4 70.6 73.2 69.2 71.4 69.0 63.6 125.8

50000 54.1 60.9 59.9 60.2 62.6 65.6 66.6 67.6 67.6 64.8 65.7 63.4 125.8

63000 51.1 61.2 61.3 58.3 59.7 61.4 63.2 61.9 63.8 59.7 60.7 57.3 127.7

80000 50.1 61.2 67.5 59.5 60.4 58.6 60.7 57.2 58.3 58.0 54.9 54.8 134.2

QASPL 95.6 98.7 98.6 99.2 100.1 102.4 104.2 106.7 109.3 114.4 114.4 114.7 113.6 151.3

PNL 108.0 110.9 110.8 111.8 112.6 115.0 116.5 118.9 120.9 123.7 123.6 122.9 121.3

PNL 108.0 110.9 110.8 111.8 112.6 115.0 116.5 118.9 120.9 123.7 123.6 122.9 121.3

DBA 170.7 181.7 181.7 187.7 179.9 180.9 179.6 181.6 178.7 180.0 178.8 176.8 175.9 164.8

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH070 TEST DATE = 08-24-81 LOCAL = C41 ANECH CH CNFIG = 4 MODEL = 4 FLTVEL = 0. FPS
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 84.00 PAMB HG = 29.74 RELHUM = 43.9 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBFR =
FNINI = LBS XNL RPM XNH XNHR = RPM V6 = 1519.3 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNLR = XNHR = RPM V8 = 1519.3 FPS AE18 = 0. SQ IN
RUNPT = 81F-ZER-7401 TAPE = X7401F TEST PT NO = 7401 NC = 862 CORR FAN SPEED = RPM

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-9405 X9405C
BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 83.9 | 83.2 | 81.5 | 84.0 | 84.4 | 85.7 | 84.9 | 86.5 | 89.2 | 96.6 | 94.9 | 94.4 | 95.3 | 132.3 |
| 63 | 86.7 | 86.5 | 86.3 | 90.3 | 91.2 | 92.3 | 91.2 | 91.8 | 93.1 | 94.9 | 99.2 | 98.2 | 99.1 | 138.4 |
| 80 | 89.5 | 89.8 | 89.6 | 89.9 | 91.2 | 93.6 | 94.0 | 93.1 | 95.0 | 94.2 | 96.5 | 96.7 | 98.7 | 136.3 |
| 100 | 90.3 | 95.8 | 91.4 | 93.4 | 93.7 | 94.1 | 95.7 | 96.9 | 95.0 | 96.9 | 99.3 | 102.5 | 104.2 | 138.9 |
| 125 | 86.9 | 90.1 | 91.9 | 93.2 | 94.0 | 96.2 | 95.8 | 96.4 | 96.0 | 99.2 | 106.4 | 107.8 | 108.7 | 142.4 |
| 160 | 87.3 | 85.3 | 89.1 | 89.0 | 90.8 | 92.7 | 93.4 | 94.6 | 100.4 | 105.5 | 108.0 | 110.6 | 142.5 | |
| 200 | 86.8 | 87.8 | 88.6 | 89.4 | 91.5 | 93.8 | 94.2 | 96.9 | 100.5 | 102.9 | 107.5 | 112.0 | 113.9 | 145.7 |
| 250 | 86.8 | 92.6 | 91.1 | 92.1 | 92.2 | 93.8 | 97.2 | 99.1 | 100.6 | 107.4 | 112.8 | 116.0 | 115.6 | 149.1 |
| 315 | 88.1 | 91.1 | 90.1 | 91.7 | 93.0 | 95.9 | 98.0 | 101.9 | 107.6 | 115.0 | 118.3 | 119.3 | 116.7 | 153.2 |
| 400 | 89.3 | 91.6 | 92.4 | 92.7 | 93.0 | 95.4 | 98.0 | 101.9 | 107.6 | 115.0 | 118.3 | 119.3 | 116.7 | 153.2 |
| 500 | 89.5 | 92.5 | 92.8 | 93.5 | 94.4 | 96.5 | 99.4 | 102.5 | 107.0 | 115.6 | 119.5 | 119.9 | 117.1 | 154.0 |
| 630 | 91.3 | 94.4 | 94.1 | 95.5 | 97.4 | 100.4 | 103.4 | 107.7 | 117.2 | 121.3 | 121.3 | 119.2 | 155.6 | |
| 800 | 95.7 | 94.2 | 95.3 | 95.6 | 96.9 | 99.0 | 100.4 | 103.8 | 108.9 | 117.3 | 121.5 | 121.1 | 155.6 | |
| 1000 | 101.5 | 102.5 | 100.3 | 99.1 | 98.4 | 99.8 | 102.2 | 104.8 | 109.6 | 117.9 | 121.7 | 121.2 | 155.9 | |
| 1250 | 99.5 | 103.1 | 103.3 | 103.2 | 102.8 | 103.4 | 105.8 | 110.3 | 116.5 | 122.6 | 119.5 | 115.0 | 155.9 | |
| 1600 | 105.0 | 102.1 | 100.9 | 101.2 | 102.3 | 105.1 | 106.5 | 110.3 | 116.5 | 122.6 | 119.5 | 115.0 | 155.7 | |
| 2000 | 105.7 | 105.3 | 104.0 | 102.4 | 101.0 | 101.6 | 103.2 | 106.4 | 110.3 | 116.7 | 120.5 | 117.4 | 154.3 | |
| 2500 | 104.4 | 104.5 | 104.2 | 104.8 | 103.8 | 103.2 | 104.0 | 106.5 | 110.3 | 116.3 | 118.7 | 115.5 | 153.3 | |
| 3150 | 103.0 | 103.8 | 103.6 | 104.2 | 102.9 | 104.6 | 106.0 | 107.3 | 109.8 | 113.2 | 116.2 | 112.9 | 152.7 | |
| 4000 | 101.5 | 102.3 | 101.5 | 102.3 | 102.9 | 104.6 | 106.0 | 107.3 | 109.8 | 113.2 | 116.2 | 112.9 | 151.4 | |
| 5000 | 99.7 | 101.0 | 100.8 | 101.3 | 101.7 | 103.2 | 105.3 | 107.1 | 109.9 | 113.3 | 115.6 | 111.1 | 151.0 | |
| 6300 | 99.3 | 99.1 | 100.7 | 100.7 | 100.7 | 101.4 | 103.1 | 104.4 | 107.3 | 109.1 | 111.2 | 114.3 | 150.1 | |
| 8000 | 97.2 | 99.1 | 99.6 | 99.8 | 100.3 | 102.3 | 103.9 | 105.6 | 107.8 | 110.7 | 111.8 | 109.2 | 149.1 | |
| 10000 | 96.0 | 97.5 | 98.8 | 99.3 | 100.0 | 102.3 | 102.9 | 104.7 | 107.1 | 109.5 | 111.4 | 107.6 | 148.8 | |
| 12500 | 93.9 | 95.8 | 97.1 | 96.8 | 98.6 | 100.6 | 101.6 | 102.6 | 105.0 | 107.2 | 109.5 | 105.4 | 147.6 | |
| 16000 | 90.4 | 93.5 | 94.3 | 95.1 | 97.9 | 98.8 | 101.6 | 102.9 | 105.1 | 107.4 | 103.5 | 99.7 | 146.9 | |
| 20000 | 88.0 | 89.9 | 91.6 | 92.3 | 93.6 | 95.4 | 96.5 | 98.8 | 100.4 | 102.1 | 105.0 | 101.8 | 146.1 | |
| 25000 | 83.7 | 87.3 | 87.6 | 88.1 | 90.5 | 93.6 | 94.3 | 95.0 | 97.9 | 99.6 | 101.2 | 99.8 | 145.5 | |
| 31500 | 78.9 | 83.2 | 83.5 | 84.9 | 86.8 | 89.7 | 90.8 | 92.3 | 94.2 | 96.5 | 99.7 | 96.3 | 145.8 | |
| 40000 | 74.8 | 78.5 | 80.4 | 80.7 | 83.3 | 85.9 | 87.3 | 88.5 | 92.7 | 94.2 | 98.9 | 94.0 | 147.8 | |
| 50000 | 70.1 | 74.2 | 75.6 | 76.9 | 78.3 | 82.3 | 82.9 | 84.4 | 90.4 | 94.0 | 98.5 | 91.4 | 150.9 | |
| 63000 | 64.1 | 70.7 | 72.0 | 74.5 | 75.7 | 77.6 | 79.7 | 80.7 | 88.0 | 92.7 | 96.2 | 89.8 | 154.1 | |
| 80000 | 60.1 | 69.7 | 70.5 | 72.0 | 72.4 | 74.1 | 74.4 | 75.5 | 85.3 | 91.2 | 93.4 | 86.8 | 158.4 | |
| QASPL | 112.9 | 113.6 | 113.0 | 113.1 | 113.3 | 114.6 | 115.9 | 118.1 | 121.5 | 127.5 | 131.5 | 130.4 | 127.5 | 167.1 |
| PWL | 125.8 | 126.6 | 126.1 | 126.4 | 126.8 | 128.8 | 129.1 | 131.0 | 134.1 | 139.5 | 143.5 | 140.5 | 136.9 | |
| PNLT | 127.1 | 127.7 | 126.1 | 127.6 | 127.8 | 128.8 | 129.1 | 131.0 | 134.1 | 139.5 | 143.5 | 140.5 | 136.9 | |
| DBA | 113.5 | 113.9 | 113.2 | 113.2 | 113.2 | 114.3 | 115.5 | 117.7 | 121.2 | 127.2 | 131.2 | 129.5 | 125.8 | |

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICLE = ADH068 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4
WIND DIR = 8559 DEG WIND VEL = NO MPH PWL AREA = FULL SPHERE EXT DIST = 40.0 FT
FNIN1 = LBS XNLR = RPM XNHR = RPM V8 = 2111.7 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2111.7 FPS AE8 = 25.3 SQ IN
CORR FAN SPEED = RPM

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IDENTIFICATION - 81F-ZER-9405 X9405F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | PWL |
|------|------|
| 40. | 160. |
| 50. | 150. |
| 60. | 140. |
| 70. | 130. |
| 80. | 120. |
| 90. | 110. |
| 100. | 100. |
| 110. | 90. |
| 120. | 80. |
| 130. | 70. |
| 140. | 60. |
| 150. | 50. |
| 160. | 40. |

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| | | | | | | | | | | | | | | |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| ASPL | 112.9 | 113.6 | 113.0 | 113.1 | 113.3 | 114.6 | 115.9 | 118.1 | 121.5 | 127.5 | 131.5 | 130.4 | 127.5 | 167.1 |
| PFL | 125.8 | 126.6 | 126.1 | 127.6 | 127.9 | 128.8 | 129.1 | 131.0 | 134.1 | 139.5 | 143.5 | 140.5 | 136.9 | |
| DBA | 181.5 | 190.4 | 191.3 | 192.9 | 193.5 | 195.2 | 196.0 | 197.1 | 206.2 | 211.9 | 214.3 | 207.7 | 194.3 | |

| | | | | |
|---|----------------------|------------------|-------|------------------------------|
| MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 | FREE JET VEL (FPS) = | 0. , DIAM (IN) = | 48.00 | REFR CORR YES, TURB CORR YES |
|---|----------------------|------------------|-------|------------------------------|

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

| | | | | | | | | | | | |
|----------|----------|----------------------|-------|------------------------|------------------|---------|-----------------|--------|------------|----------|---|
| VEHICL | = ADH068 | TEST DATE = 08-24-81 | LOCAT | = C41 ANECH CH | CONFIG | = 4 | MODEL | = 4 | FLTVEL | = 0. FPS | |
| IAPLHA | = SB59 | LEGA / | = NO | PWL AREA = FULL SPHERE | TAMB F | = 84.00 | PAMB HG = 29.74 | RELHUM | = 43.9 PCT | NDR | = |
| WIND DIR | = | WIND VEL | = MPH | EXT DIST = 40.0 FT | EXT CONFIG = ARC | MIKE HT | = | NDR | = | | |

| | | | | | | | | | | | | | | | |
|--------|---|-----|------|-----|------|-----|-----|---|--------|-----|------|---|------|----|----|
| FNIN1 | = | LBS | XNL | RPM | XNH | RPM | V8 | = | 2111.7 | FPS | AE8 | = | 25.3 | SO | IN |
| FNRAMB | = | LBS | XNLR | RPM | XNHR | RPM | V18 | = | | FPS | AE18 | = | 0. | SO | IN |

RUNPT = /
 ZER-9405 TAPE = X9405F
 TEST PT NO = 9405
 NC = 862
 CORR FAN SPEED =
 RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-9405 X94051

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 67.3 71.1 73.0 74.0 74.7 77.2 79.7 83.2 88.2 94.5 96.3 95.1 89.1 170.7

63 67.4 72.0 73.3 74.8 76.1 78.3 81.1 83.8 87.6 95.1 97.4 95.6 89.4 171.4

80 69.2 73.1 74.7 75.7 77.2 79.2 81.7 84.7 88.2 96.7 99.2 96.9 91.5 173.1

100 73.5 73.6 75.8 76.8 78.5 80.6 82.0 84.3 87.0 90.1 95.3 97.5 91.8 171.7

250 82.6 84.0 83.8 83.0 82.0 82.8 84.3 87.0 90.1 95.3 97.5 91.8 82.6 171.7

315 80.9 82.8 83.6 85.1 84.7 84.2 84.9 86.9 89.6 94.6 95.2 89.4 80.1 170.7

400 79.0 81.7 82.0 83.6 84.7 86.4 85.7 87.1 89.4 92.8 94.5 86.9 77.2 170.1

500 77.0 79.8 80.4 82.0 83.1 85.0 86.2 87.0 88.7 90.8 91.8 85.5 75.3 168.8

630 74.7 78.1 79.3 80.7 81.7 83.3 85.3 86.6 88.5 90.5 90.6 83.0 73.3 168.4

800 73.9 77.6 79.0 80.4 81.1 83.0 84.1 86.5 87.3 88.0 88.8 81.5 71.6 167.5

1000 71.3 75.6 77.6 78.8 79.8 82.1 83.5 84.6 85.8 87.2 88.0 79.7 69.2 166.5

1250 69.7 73.6 76.5 78.1 79.4 81.9 82.3 83.6 84.8 85.6 85.1 77.4 67.4 166.3

1600 66.6 71.3 74.4 75.3 77.8 80.0 80.7 81.1 82.4 82.8 82.2 73.7 61.9 165.1

2000 62.2 68.5 71.2 73.3 74.9 77.1 77.8 79.8 79.9 80.0 79.2 70.2 57.1 164.3

2500 57.9 63.6 67.7 69.9 72.0 74.1 74.9 76.4 76.5 75.8 75.0 65.7 49.5 163.5

3150 50.3 56.6 61.8 64.2 67.5 70.9 71.4 71.1 72.1 70.8 67.8 58.7 36.7 163.0

4000 39.3 49.8 53.9 57.6 60.9 64.2 64.9 65.1 64.6 63.1 60.1 46.3 30.3 163.2

5000 25.5 37.5 44.5 48.0 52.4 55.6 56.4 55.8 56.8 53.2 49.5 30.3 165.2

6300 3.0 18.9 27.7 33.5 37.3 42.1 41.9 41.0 42.5 38.8 31.3 3.6 168.3

8000 2.8 11.8 16.6 19.6 20.5 20.5 18.0 18.8 12.6 171.5

10000 175.8

12500

16000

20000

25000

31500

40000

50000

63000

80000

QASPL 89.4 91.6 92.2 93.0 93.6 94.9 96.1 97.9 100.8 106.1 108.5 105.0 98.1 184.3

PWL 93.5 96.3 97.6 98.8 99.9 101.7 102.5 104.0 106.0 109.5 111.3 105.7 97.3

PWL 94.2 96.9 97.6 99.4 100.5 101.7 102.5 104.0 106.5 110.1 111.3 106.9 97.3

DBA 82.9 85.8 87.1 88.3 89.3 91.2 92.1 93.5 95.1 97.5 98.6 92.6 83.7

MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH068 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CNFIG = 4 MODEL = 4 FLVEL = 0. FPS

IAPLHA = SB59 IEQA = NO EXT DIST = 2400.0 FT TAMB F = 84.00 PAMB HG = 29.74 RELHUM = 43.9 PCT

WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIG = SL MIKE HT = NBR

FNINI = LBS XNL = RPM XNH = RPM V8 = 2111.7 FPS AE8 = 25.3 SQ IN

FNFRMB = LBS XNL = RPM XNHR = RPM V8 = 2111.7 FPS AE8 = 25.3 SQ IN

TEST PT NO = 9405 NC = 862 CORR FAN SPEED = RPM

RUNPT = 81F-ZER-9405 TAPE = X94051

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-9406 X9406C
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 87.2 85.7 81.2 81.3 81.1 84.0 84.1 86.3 88.9 95.6 95.2 94.6 97.8 132.3

63 88.0 87.5 88.0 86.1 87.2 90.3 90.4 90.3 92.3 103.9 99.7 98.7 99.3 137.8

80 90.3 94.8 89.8 90.6 91.5 93.8 94.8 93.9 93.9 94.5 98.5 101.4 136.6

100 89.8 94.1 90.1 90.9 91.2 92.6 94.0 95.2 93.5 94.2 97.1 101.8 137.4

125 87.1 89.6 90.7 91.7 92.3 94.7 94.5 94.7 93.8 97.2 103.6 106.3 140.7

160 85.5 82.8 87.6 87.4 86.7 89.1 90.2 90.6 92.1 97.9 103.3 106.5 140.8

200 85.8 84.8 86.3 85.6 87.2 90.1 91.5 93.9 97.3 99.4 104.3 109.5 143.1

250 83.8 87.6 87.1 88.4 88.7 89.0 90.8 93.5 95.6 97.3 103.7 109.5 145.9

315 84.1 86.9 86.4 87.7 89.0 92.1 94.8 96.6 99.8 96.7 100.5 107.2 147.5

400 86.1 87.6 88.4 88.9 89.3 93.1 95.5 98.9 98.9 98.9 104.9 112.2 150.2

500 85.7 88.7 89.0 89.9 90.7 91.8 93.9 97.3 97.3 97.3 104.7 114.4 150.9

630 87.3 90.1 89.9 90.7 91.8 93.9 97.3 97.3 97.3 97.3 104.7 114.4 151.9

800 90.0 89.7 90.0 91.6 93.1 94.5 96.6 99.8 99.8 99.8 104.9 114.4 151.8

1000 94.0 94.8 93.0 93.8 94.2 96.0 98.2 101.1 105.4 114.4 119.2 113.9 151.7

1250 97.7 100.0 96.6 96.3 96.9 97.5 98.9 101.6 106.5 113.9 119.3 112.4 151.6

1600 104.0 103.6 102.1 100.1 97.7 98.3 101.6 103.5 107.1 113.5 119.4 112.0 151.9

2000 101.9 104.3 104.0 103.6 101.5 98.8 100.2 103.1 106.5 113.7 116.8 111.1 150.6

2500 99.4 100.7 101.2 103.3 103.4 103.0 101.6 103.3 106.8 113.1 114.9 109.5 149.6

3150 97.5 98.8 98.6 99.9 101.5 103.8 104.2 103.1 106.9 111.4 115.0 108.5 149.1

4000 97.5 98.0 98.3 98.0 97.5 98.2 99.4 101.6 104.6 106.2 109.6 110.6 147.7

5000 96.2 97.3 97.3 97.5 98.2 99.4 101.6 104.6 106.2 109.6 110.6 104.6 146.7

6300 96.1 97.6 97.0 97.5 98.9 99.4 100.9 103.8 106.1 108.5 109.5 103.8 146.2

8000 94.2 96.1 96.4 96.3 97.0 98.6 100.4 102.5 105.4 107.7 107.3 102.2 145.4

10000 93.8 94.5 95.6 96.3 97.0 98.8 98.9 101.5 104.1 106.3 107.0 101.7 145.0

12500 91.7 92.6 93.9 94.9 95.4 97.2 97.9 99.6 102.3 104.5 105.3 100.2 144.2

16000 88.4 90.6 91.3 92.1 92.7 94.7 96.3 98.1 99.5 101.4 102.2 97.8 142.9

20000 88.0 88.0 88.0 88.0 88.0 88.0 88.0 88.0 88.0 88.0 88.0 88.0 142.1

25000 82.0 84.7 85.0 86.0 87.1 90.2 91.7 91.7 94.3 95.2 96.0 92.9 141.3

31500 77.0 80.4 81.0 81.3 83.0 86.3 87.5 88.5 90.6 90.7 92.1 87.9 140.4

40000 72.0 75.5 77.6 77.9 80.0 82.1 83.3 84.4 87.4 86.0 90.9 83.9 141.1

50000 67.6 72.4 73.1 74.8 78.0 79.1 79.9 82.6 82.6 89.2 78.9 70.3 142.1

63000 62.5 71.9 68.7 68.9 70.9 73.5 75.1 74.6 78.7 82.1 85.6 75.2 144.2

80000 60.9 72.5 69.9 65.3 67.3 70.4 70.8 68.3 73.4 77.6 79.7 67.8 146.2

DBA 110.1 111.2 110.6 110.8 110.7 111.4 112.6 114.5 117.8 124.0 128.1 123.3 115.9

PWL 123.4 123.7 123.4 124.1 124.3 126.2 126.7 128.2 130.9 136.3 139.5 134.9 128.8

GASPL 109.7 110.9 110.3 110.6 110.6 111.7 113.0 114.9 118.1 124.4 128.5 125.1 120.8 162.6

AASA SHOCK CELL/ANNUAL C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH071 TEST DATE = 08-24-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVL = 400. FPS
APLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 85.00 PAMB HG = 29.75 RELHUM = 41.6 PCT
/IND DIR = DEG WIND VEL' = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBRF =

NIN1 = LBS XNL RPM XNH RPM XNHR = V8 = 2091.9 FPS AE8 = 25.3 SQ IN
NRAMB = LBS XNLR RPM XNHR = V8 = 2091.9 FPS AE8 = 25.3 SQ IN

UNPT = 81F-400-9406 TAPE = X9406C TEST PT NO = 9406 NC = 862 CORR FAN SPEED = RPM

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DATPROC - FLIKAN

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-9406 X9406F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 |
|------|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|
| PWL | | | | | | | | | | | | |

| FREQ | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 200 | 91.1 | 93.6 | 91.8 | 91.5 | 90.2 | 90.8 | 91.6 | 92.0 | 97.0 | 102.8 | 106.4 | 110.1 |
| 250 | 91.1 | 93.6 | 91.8 | 91.5 | 90.2 | 90.8 | 91.6 | 92.0 | 97.0 | 102.8 | 106.4 | 110.1 |
| 315 | 91.1 | 93.6 | 91.8 | 91.5 | 90.2 | 90.8 | 91.6 | 92.0 | 97.0 | 102.8 | 106.4 | 110.1 |
| 400 | 91.8 | 93.3 | 91.3 | 91.1 | 91.1 | 93.4 | 94.7 | 97.1 | 102.9 | 111.1 | 115.3 | 119.9 |
| 500 | 93.8 | 94.0 | 93.3 | 93.5 | 93.6 | 93.6 | 97.8 | 102.9 | 112.3 | 117.0 | 116.5 | 112.2 |
| 630 | 93.4 | 95.1 | 94.0 | 93.5 | 93.7 | 94.3 | 96.4 | 98.1 | 103.3 | 112.0 | 118.1 | 111.3 |
| 800 | 94.9 | 96.4 | 94.8 | 94.1 | 95.0 | 95.8 | 97.7 | 104.3 | 113.2 | 118.8 | 116.9 | 113.3 |
| 1000 | 97.2 | 99.2 | 95.9 | 94.9 | 95.0 | 95.8 | 96.7 | 99.2 | 105.5 | 112.8 | 118.9 | 115.5 |
| 1250 | 99.2 | 99.2 | 96.5 | 96.4 | 96.7 | 98.3 | 98.4 | 99.8 | 106.4 | 112.7 | 119.3 | 115.3 |
| 1600 | 104.2 | 105.3 | 100.6 | 99.1 | 99.3 | 101.2 | 101.9 | 106.4 | 113.4 | 117.3 | 115.9 | 113.1 |
| 2000 | 111.3 | 109.6 | 103.4 | 103.6 | 100.1 | 100.2 | 102.0 | 107.0 | 113.3 | 115.9 | 114.0 | 113.1 |
| 2500 | 108.1 | 109.5 | 108.1 | 106.7 | 106.3 | 104.6 | 101.9 | 102.5 | 107.6 | 112.0 | 116.4 | 112.5 |
| 3150 | 106.9 | 107.2 | 106.6 | 107.4 | 104.7 | 105.8 | 104.9 | 102.8 | 108.1 | 111.3 | 114.2 | 111.9 |
| 4000 | 105.1 | 105.5 | 104.3 | 102.3 | 103.4 | 105.1 | 105.3 | 102.5 | 110.7 | 112.4 | 109.8 | 110.4 |
| 5000 | 104.5 | 104.5 | 102.8 | 102.3 | 102.4 | 102.4 | 102.4 | 104.1 | 106.9 | 109.1 | 109.4 | 107.6 |
| 6300 | 103.5 | 103.9 | 103.1 | 102.4 | 103.0 | 102.4 | 102.4 | 104.1 | 106.9 | 109.1 | 109.4 | 107.6 |
| 8000 | 103.4 | 102.2 | 101.3 | 101.6 | 101.3 | 101.6 | 101.3 | 103.2 | 105.9 | 107.9 | 109.3 | 107.4 |
| 10000 | 101.4 | 102.5 | 101.9 | 100.8 | 101.1 | 101.8 | 100.5 | 101.9 | 104.5 | 106.5 | 108.0 | 106.3 |
| 12500 | 100.7 | 100.7 | 100.8 | 100.6 | 99.5 | 100.2 | 99.5 | 100.1 | 102.8 | 104.6 | 104.9 | 106.0 |
| 16000 | 98.0 | 98.2 | 98.6 | 98.6 | 96.8 | 97.7 | 98.5 | 99.2 | 100.9 | 102.2 | 104.5 | 103.0 |
| 20000 | 94.4 | 95.8 | 95.6 | 94.0 | 93.2 | 93.9 | 92.8 | 95.6 | 97.7 | 96.8 | 97.1 | 101.0 |
| 25000 | 91.4 | 92.6 | 92.4 | 91.1 | 93.2 | 93.9 | 92.8 | 95.6 | 97.7 | 96.8 | 97.1 | 101.0 |
| 31500 | 86.6 | 86.5 | 87.9 | 87.6 | 89.3 | 89.7 | 89.5 | 92.4 | 90.7 | 96.3 | 92.8 | 92.4 |
| 40000 | 83.5 | 85.7 | 84.8 | 83.5 | 84.6 | 84.8 | 84.7 | 87.5 | 94.3 | 87.3 | 86.1 | 104.1 |
| 50000 | 78.1 | 80.3 | 81.0 | 79.7 | 79.4 | 81.0 | 80.5 | 79.9 | 84.6 | 87.6 | 91.3 | 84.0 |
| 63000 | 72.7 | 76.3 | 74.5 | 74.0 | 75.5 | 76.5 | 74.6 | 80.8 | 84.5 | 86.9 | 78.1 | 72.7 |
| 80000 | 66.2 | 74.3 | 69.7 | 68.3 | 71.3 | 73.4 | 72.2 | 68.3 | 70.9 | 74.7 | 68.3 | 62.8 |
| QASPL | 116.4 | 116.6 | 115.0 | 114.3 | 113.5 | 113.4 | 113.5 | 114.3 | 118.3 | 123.7 | 128.0 | 126.2 |
| PNL | 129.1 | 129.4 | 127.9 | 127.6 | 126.5 | 126.6 | 126.5 | 127.1 | 130.9 | 135.2 | 138.8 | 136.6 |
| DBA | 168.4 | 168.4 | 168.4 | 168.4 | 168.4 | 168.4 | 168.4 | 168.4 | 168.4 | 168.4 | 168.4 | 168.4 |

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|------------|----------|-----------|------------|----------|----------------|-----------|---------|----------|---------|------------|------------|
| VEHICL | = ADH071 | TEST DATE | = 08-24-81 | LOCAT | = C41 ANECH CH | CONFIG | = 4 | MODEL | = 4 | FLTVEL | = 400. FPS |
| IAPLHA | = SB59 | DEG | = NO | PWL AREA | = FULL SPHERE | TAMB F | = 85.00 | PAMB HG | = 29.75 | RELHUM | = 41.6 PCT |
| WIND DIR | = | WIND VEL | = | EXT DIST | = 40.0 FT | EXT CNFIG | = ARC | MIKE HT | = | NBFR | = |
| FNIN1 | = | LBS XNL | = | RPM XNH | = | V8 | = | FPS AEG | = | 25.3 SQ IN | = |
| FNRMAMB | = | LBS XNLR | = | RPM XNHR | = | V18 | = | FPS AE18 | = | 0. SQ IN | = |
| TEST PT NO | = 9406 | NC | = | 862 | CORR FAN SPEED | = | RPM | | | | |
| TAPE | = X9406F | | | | | | | | | | |

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-9406 X94061

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 69.6 72.6 71.9 72.4 72.8 75.2 76.4 78.4 83.5 90.6 93.3 91.7 85.3 167.2

63 71.7 73.5 73.9 73.6 75.2 75.4 77.3 79.1 83.5 91.8 94.9 92.3 84.6 168.3

80 71.3 74.6 74.5 74.8 75.4 76.1 78.0 79.4 83.8 91.4 96.0 91.8 83.6 168.6

100 72.7 75.8 75.3 75.3 76.8 76.8 77.4 78.9 84.8 92.6 96.6 91.0 85.4 169.5

125 74.9 75.2 75.3 76.2 77.3 78.4 79.0 80.3 85.9 92.1 96.6 91.0 85.2 169.2

160 76.8 78.3 78.3 77.4 80.1 79.9 79.8 80.8 86.7 91.8 96.8 90.5 85.1 169.5

200 81.5 84.3 80.7 80.0 81.0 80.8 82.5 82.8 86.5 92.3 94.6 90.0 84.6 169.0

250 88.2 88.3 86.6 84.0 81.3 81.3 82.6 82.6 86.9 91.9 92.9 88.4 83.6 169.1

315 84.7 87.6 87.0 87.1 85.5 82.7 82.9 87.1 90.3 92.9 87.2 82.1 169.2

400 82.9 85.1 85.8 87.4 85.2 86.5 85.4 82.8 87.3 89.2 90.3 85.1 79.8 168.2

500 80.7 83.0 83.0 84.0 82.5 83.8 85.3 85.0 86.4 88.2 87.9 82.4 78.0 166.9

630 79.5 81.5 82.1 82.3 82.6 83.1 84.4 86.0 86.7 86.4 80.9 75.6 166.2

800 78.1 80.7 81.3 81.5 82.7 82.3 83.3 85.1 85.8 83.9 78.8 74.0 165.6

1000 77.5 80.6 80.7 81.2 80.9 81.4 81.6 82.2 83.4 83.5 78.0 72.5 165.4

1250 75.0 78.7 79.7 79.6 80.5 81.4 80.0 80.8 82.2 82.6 81.6 76.0 164.9

1600 73.4 76.2 78.1 79.0 78.6 79.5 78.7 78.6 80.2 80.1 78.8 73.3 164.1

2000 69.8 73.1 75.6 76.9 75.8 76.9 77.5 77.5 77.9 77.1 76.2 69.8 163.5

2500 64.3 69.5 71.7 73.1 72.4 74.4 74.5 74.0 74.9 73.3 71.0 65.0 162.5

3150 58.0 63.9 66.6 68.4 68.2 70.5 71.0 68.9 69.9 66.9 64.3 55.7 161.6

4000 47.0 55.1 58.3 60.7 61.7 63.8 63.8 62.3 62.8 57.3 56.7 42.8 161.2

5000 34.1 44.6 48.9 50.8 53.7 54.7 53.9 52.0 51.8 46.4 44.9 23.6 161.6

6300 10.9 25.1 33.1 36.3 38.4 40.8 39.5 36.5 36.7 32.3 24.1 162.7

8000 163.1 163.7 162.7

10000 163.1 163.7 162.7

12500 163.1 163.7 162.7

16000 163.1 163.7 162.7

20000 163.1 163.7 162.7

25000 163.1 163.7 162.7

31500 163.1 163.7 162.7

40000 163.1 163.7 162.7

50000 163.1 163.7 162.7

63000 163.1 163.7 162.7

80000 163.1 163.7 162.7

DBA 87.3 89.7 90.1 90.5 90.2 90.6 90.5 90.7 92.7 94.3 94.8 89.5 84.2

PML 99.2 101.1 101.0 101.5 100.5 101.0 100.7 101.2 103.8 106.6 108.3 102.1 96.0

FNL 98.0 100.1 100.3 100.9 100.5 101.0 100.7 100.7 103.3 105.9 107.3 102.1 96.0

DBA 87.3 89.7 90.1 90.5 90.2 90.6 90.5 90.7 92.7 94.3 94.8 89.5 84.2

MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NO2, SC-4/NAS3-22514

VEHICL * ADH071 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CNF10 = 4 MODEL = 4 FLTVL = 400. FPS

IAPLHA * SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 85.00 PAMB HG = 29.75 RELHUM = 41.6 PCT

WIND DIR * DEG WIND VEL * MPH EXT DIST = 2400.0 FT EXT CNF10 = SL MIKE HT = 29.75 NBFR =

FNINI * LBS XNL RPM XNH XNHR = RPM V8 = 2091.9 FPS AE8 = 25.3 SQ IN

FNRAMB * LBS XNLR = RPM V8 = 2091.9 FPS AE8 = 25.3 SQ IN

TEST PT NO = 9406 NC = 862 CORR FAN SPEED = RPM

C-9406 TAPE = X94061

RUNPT = 81

ORIGINAL PAGE IS
OF POOR QUALITY

ORIGINAL PAGE 13
OF POOR QUALITY

| | | | | | | | | | | | | | | |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL | |
| 50 | 84.7 | 83.2 | 82.5 | 84.0 | 85.7 | 85.1 | 86.3 | 89.2 | 98.8 | 94.9 | 94.4 | 95.0 | 133.1 | |
| 63 | 87.5 | 87.5 | 89.0 | 91.1 | 91.4 | 91.5 | 90.4 | 90.6 | 92.8 | 105.9 | 99.5 | 99.1 | 139.0 | |
| 80 | 90.0 | 95.1 | 89.8 | 90.6 | 91.0 | 93.8 | 94.2 | 95.3 | 94.7 | 97.3 | 99.2 | 100.6 | 136.7 | |
| 100 | 90.6 | 96.1 | 91.9 | 92.9 | 94.1 | 96.0 | 97.2 | 94.8 | 97.2 | 99.6 | 103.0 | 104.2 | 139.1 | |
| 125 | 87.4 | 90.6 | 91.9 | 93.4 | 94.3 | 96.4 | 96.3 | 96.4 | 96.3 | 99.5 | 108.0 | 109.0 | 142.5 | |
| 160 | 87.8 | 85.8 | 89.6 | 89.4 | 89.2 | 91.6 | 93.2 | 94.4 | 94.8 | 100.4 | 106.0 | 111.6 | 143.3 | |
| 200 | 87.0 | 87.6 | 89.3 | 89.6 | 91.7 | 94.1 | 95.0 | 96.9 | 100.8 | 102.7 | 107.8 | 116.4 | 149.6 | |
| 250 | 86.8 | 92.6 | 91.8 | 92.6 | 92.7 | 94.1 | 97.2 | 99.9 | 101.1 | 107.7 | 113.3 | 116.5 | 149.6 | |
| 315 | 88.3 | 91.6 | 90.6 | 92.2 | 93.5 | 96.6 | 98.5 | 100.4 | 104.5 | 111.0 | 117.8 | 117.4 | 151.1 | |
| 400 | 89.8 | 91.9 | 92.9 | 92.7 | 93.5 | 96.1 | 99.0 | 101.9 | 108.1 | 115.0 | 118.1 | 119.5 | 153.4 | |
| 500 | 90.0 | 93.5 | 94.3 | 94.1 | 94.9 | 96.0 | 97.9 | 101.0 | 103.7 | 110.8 | 117.7 | 121.3 | 156.1 | |
| 630 | 92.1 | 94.4 | 94.1 | 94.9 | 96.0 | 97.9 | 101.0 | 103.7 | 108.4 | 117.7 | 122.1 | 121.3 | 156.1 | |
| 800 | 96.0 | 95.0 | 95.3 | 95.8 | 97.1 | 99.0 | 100.9 | 104.1 | 109.4 | 117.6 | 122.5 | 121.4 | 156.2 | |
| 1000 | 101.5 | 102.5 | 100.5 | 99.6 | 98.9 | 100.0 | 102.4 | 105.3 | 110.4 | 117.9 | 122.5 | 121.4 | 156.5 | |
| 1250 | 100.2 | 104.5 | 102.9 | 101.7 | 101.8 | 103.7 | 106.9 | 111.5 | 117.9 | 121.0 | 117.9 | 112.9 | 155.0 | |
| 1600 | 105.3 | 103.1 | 102.6 | 101.6 | 101.5 | 103.0 | 107.2 | 111.3 | 117.5 | 123.4 | 119.7 | 115.2 | 156.4 | |
| 2000 | 105.7 | 105.6 | 104.5 | 102.9 | 101.7 | 101.8 | 103.7 | 106.9 | 111.5 | 117.9 | 121.0 | 117.9 | 155.0 | |
| 2500 | 103.9 | 105.0 | 104.2 | 104.8 | 103.8 | 104.2 | 105.0 | 107.3 | 111.3 | 119.7 | 115.2 | 111.5 | 154.0 | |
| 3150 | 102.5 | 103.6 | 103.1 | 102.9 | 104.0 | 106.0 | 105.2 | 107.4 | 111.4 | 115.6 | 119.2 | 114.5 | 153.4 | |
| 4000 | 101.7 | 101.8 | 102.0 | 101.3 | 101.0 | 102.0 | 103.4 | 107.9 | 114.1 | 115.8 | 111.1 | 107.0 | 151.3 | |
| 5000 | 99.9 | 101.3 | 101.0 | 101.3 | 102.0 | 103.4 | 107.9 | 114.1 | 115.8 | 111.1 | 107.0 | 151.3 | | |
| 6300 | 99.1 | 100.8 | 101.0 | 100.7 | 101.9 | 103.4 | 107.3 | 109.6 | 112.7 | 114.8 | 110.8 | 106.1 | 150.7 | |
| 8000 | 96.7 | 98.9 | 99.4 | 99.8 | 100.5 | 103.9 | 106.4 | 108.6 | 111.5 | 112.6 | 108.9 | 104.7 | 149.6 | |
| 10000 | 95.8 | 97.5 | 98.5 | 97.1 | 98.9 | 102.8 | 105.2 | 107.6 | 110.2 | 111.9 | 107.6 | 103.8 | 149.2 | |
| 12500 | 94.1 | 95.8 | 97.1 | 97.1 | 98.9 | 101.6 | 103.5 | 105.6 | 110.7 | 110.5 | 101.7 | 148.3 | | |
| 16000 | 90.9 | 93.5 | 94.3 | 94.6 | 96.2 | 97.6 | 99.3 | 101.6 | 103.4 | 105.8 | 107.9 | 103.5 | 147.2 | |
| 20000 | 88.2 | 89.9 | 91.8 | 92.3 | 93.4 | 95.6 | 97.3 | 98.1 | 99.9 | 103.1 | 106.0 | 101.6 | 146.5 | |
| 25000 | 83.9 | 87.6 | 87.8 | 88.9 | 90.7 | 93.6 | 94.8 | 95.3 | 98.4 | 100.3 | 102.9 | 99.0 | 146.2 | |
| 31500 | 79.6 | 83.0 | 84.6 | 86.6 | 89.1 | 92.3 | 95.2 | 98.0 | 101.4 | 96.3 | 87.8 | 146.8 | | |
| 40000 | 75.1 | 78.7 | 80.6 | 80.7 | 83.6 | 86.2 | 88.5 | 92.9 | 95.7 | 99.6 | 94.0 | 84.6 | 148.4 | |
| 50000 | 70.6 | 74.4 | 75.4 | 77.2 | 78.8 | 82.3 | 83.4 | 84.9 | 90.4 | 95.5 | 98.5 | 91.7 | 151.3 | |
| 63000 | 65.4 | 71.5 | 71.8 | 74.0 | 76.5 | 78.1 | 79.9 | 81.4 | 88.8 | 94.2 | 96.9 | 89.8 | 155.0 | |
| 80000 | 61.1 | 70.2 | 70.8 | 72.2 | 73.0 | 74.1 | 75.2 | 76.5 | 86.1 | 91.7 | 93.4 | 85.3 | 158.6 | |
| QASPL | 112.9 | 113.8 | 113.3 | 113.2 | 113.5 | 114.9 | 116.2 | 118.6 | 122.3 | 128.2 | 132.1 | 130.8 | 128.2 | 167.7 |
| PWL | 125.7 | 126.3 | 126.5 | 127.9 | 129.1 | 129.4 | 131.7 | 135.1 | 140.3 | 143.5 | 140.8 | 137.4 | | |
| DBA | 113.5 | 114.1 | 113.5 | 113.3 | 113.4 | 114.6 | 115.8 | 118.3 | 122.1 | 128.0 | 131.9 | 129.8 | 126.5 | |
| NASA SHOCK CELL/ANNULAR C-D PLUG NO2. SC-4/NAS3-22514 | | | | | | | | | | | | | | |
| /E/HICL = ADH066 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CCONFIG = 4 MODEL = 4 PAMB HG = 29.72 FLTVL = 0. FPS | | | | | | | | | | | | | | |
| IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE EXT DIST = 40.0 FT TAMB F = ARC MIKE HT = 29.72 RELHUM = 43.9 PCT | | | | | | | | | | | | | | |
| VIND DIR = DEG WIND VEL, = MPH EXT DIST = 40.0 FT TAMB F = ARC MIKE HT = 29.72 RELHUM = 43.9 PCT | | | | | | | | | | | | | | |
| NIN1 = LBS XNL = RPM XNHR = RPM V8 = 2125.8 FPS AE18 = 25.3 SO IN | | | | | | | | | | | | | | |
| NRAMB = LBS XNL = RPM XNHR = RPM V8 = 2125.8 FPS AE18 = 25.3 SO IN | | | | | | | | | | | | | | |
| UNPT = 81F-ZER-9411 TAPE = X9411C TEST PT NO = 9411 NC = 862 CORR FAN SPEED = RPM | | | | | | | | | | | | | | |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - BIF-ZER-9411 X9411F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 84.7 83.2 82.5 84.0 84.6 85.7 85.1 86.3 89.2 98.8 94.9 94.4 95.0 133.1
63 87.5 87.5 89.0 91.1 91.4 91.5 90.4 90.6 92.8 105.9 99.5 98.7 99.1 139.0
80 90.0 95.1 89.8 90.6 91.0 93.8 94.2 93.4 95.3 94.7 97.3 99.2 100.6 136.7
100 90.6 96.1 91.6 92.9 93.2 94.1 96.0 97.2 94.8 97.2 99.6 103.0 104.2 139.1
125 87.4 90.6 91.9 93.4 94.3 96.4 96.3 96.4 96.3 99.5 105.9 108.0 109.0 142.5
150 87.8 85.8 89.6 89.4 89.2 91.6 93.2 94.4 94.8 100.4 106.0 109.0 111.6 143.3
200 87.0 87.6 89.3 89.6 91.7 94.1 95.0 96.9 100.8 102.7 107.8 112.2 114.1 145.9
250 86.8 92.6 91.8 92.6 92.7 94.1 97.2 99.9 101.1 107.7 113.3 116.5 116.4 149.6
315 86.3 91.6 90.6 92.2 93.5 96.6 98.5 100.4 104.5 111.0 114.6 117.8 117.4 151.1
400 89.8 91.9 92.9 92.7 93.5 96.1 99.0 101.9 108.1 115.0 118.1 119.5 117.9 153.4
500 90.0 93.5 93.0 94.3 95.1 97.0 99.6 102.5 108.0 116.3 120.2 120.9 117.8 154.8
630 92.1 94.4 94.1 94.9 96.0 97.9 101.0 103.7 108.4 117.7 122.1 121.3 119.9 156.1
800 96.0 95.3 95.8 97.1 99.0 100.9 104.1 109.4 117.6 122.5 121.4 118.1 156.2
1000 101.5 102.5 100.5 99.6 98.9 100.0 102.4 105.3 110.4 117.9 122.5 121.7 118.8 156.5

1250 100.2 104.5 103.3 103.6 103.4 103.0 103.7 106.3 111.5 117.9 122.5 121.4 117.2 156.4
1600 105.3 103.1 102.6 101.6 101.5 103.1 105.3 107.2 111.3 117.5 123.4 119.7 115.2 156.4
2000 105.7 104.5 102.9 101.7 101.8 103.7 106.9 111.3 117.3 119.7 119.7 115.2 111.5 154.0
2500 103.9 105.0 104.2 104.8 103.8 104.2 105.0 107.3 111.3 117.3 119.7 115.2 111.5 154.0
3150 102.5 103.6 103.1 102.9 104.0 106.0 105.2 107.4 111.4 115.6 119.2 114.5 109.6 153.4
4000 101.7 101.8 102.0 102.6 104.3 106.2 108.3 110.6 114.7 112.2 112.7 115.8 111.1 152.2
5000 99.9 101.3 102.0 103.4 105.1 107.9 110.4 114.1 115.6 111.1 107.0 107.0 151.3
6300 99.1 100.8 101.0 100.7 101.9 103.4 104.4 107.3 109.6 112.7 114.8 110.8 106.1 150.7
8000 96.7 98.9 99.4 99.8 100.5 102.3 103.9 106.4 108.6 111.5 112.6 108.9 104.7 149.6
10000 95.6 97.5 98.5 99.5 100.6 102.6 105.2 107.6 109.5 110.5 105.6 103.6 101.7 148.3
12500 94.1 95.8 97.1 97.1 98.9 100.6 101.6 103.1 105.5 108.5 110.5 105.6 101.7 148.3
16000 90.9 93.5 94.3 94.6 96.2 97.6 99.3 101.6 103.4 105.8 107.9 103.5 98.9 147.2
20000 88.2 89.9 91.8 92.3 93.4 95.6 97.3 98.1 99.9 103.1 106.0 101.6 96.5 146.5
25000 83.9 87.6 88.9 90.7 93.6 94.8 95.3 98.4 100.3 102.9 99.0 92.0 146.2
31500 79.6 83.0 83.8 84.6 86.6 89.4 91.1 92.3 95.2 98.0 101.4 96.3 87.8 146.8
40000 75.1 78.7 80.6 80.7 83.6 86.2 88.8 90.4 95.5 98.5 91.7 81.1 151.3
50000 70.6 74.4 75.4 77.2 78.8 82.3 83.4 84.9 90.4 95.5 98.5 91.7 81.1 151.3
63000 65.4 71.5 71.8 74.0 76.5 78.1 79.9 81.4 88.8 94.2 96.9 89.8 77.2 155.0
80000 61.1 70.2 70.8 72.2 73.0 74.1 75.2 76.5 86.1 91.7 93.4 85.3 71.7 158.6

GASPL 112.9 113.8 113.3 113.2 113.5 114.9 116.2 118.6 122.3 128.2 132.1 130.8 128.2 167.7
PNLT 125.7 126.8 126.3 126.5 126.8 128.5 129.4 131.7 135.1 140.3 143.5 140.8 137.4
DBA 182.5 190.9 191.5 193.0 194.0 195.3 196.6 198.0 206.9 212.5 214.4 206.5 193.3

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH066 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CONFIG = 4
IAPLHA = SB59 IE9A / = NO PWL AREA = FULL SPHERE TAMB F = 84.00 MIKE HT = 29.72 RELHUM = 43.9 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC

FNINI = LBS XNL RPM XNHR XNH RPM V8 = 2125.8 FPS AE8 = 25.3 SQ IN
FNAMB = LBS XNL RPM XNHR XNH RPM V8 = 2125.8 FPS AE8 = 25.3 SQ IN

RUNPT = ZER-9411 TAPE = X9411F TEST PT NO = 9411 NC = 862 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-9411 X94111

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160

50 67.8 71.4 73.5 74.0 75.2 78.0 80.7 83.2 88.7 94.5 96.1 95.3 90.4 170.9

63 67.9 73.0 73.6 76.8 78.8 78.8 83.8 88.6 95.8 98.2 96.6 90.2 172.2

80 70.0 73.8 74.7 76.2 77.7 79.7 82.7 84.9 89.0 97.2 100.0 96.9 92.2 173.6

100 73.8 74.4 75.8 77.0 78.8 80.8 82.5 85.3 89.9 97.0 100.3 97.0 90.2 173.6

125 79.2 81.8 80.9 80.7 80.5 81.7 84.0 86.4 90.8 97.2 100.2 97.1 90.7 173.9

160 77.8 83.7 83.6 84.6 84.9 84.6 85.1 87.3 91.7 97.0 100.0 96.6 88.7 173.9

200 82.5 82.0 82.7 82.5 82.7 84.5 86.6 88.1 91.4 96.4 100.7 94.6 86.3 173.8

250 82.6 84.2 84.3 83.5 82.8 83.0 84.8 87.5 91.4 96.6 98.0 92.3 83.3 172.4

315 80.4 83.3 83.8 85.1 84.7 85.2 85.9 87.6 90.8 95.6 96.2 89.1 81.1 171.5

400 78.5 81.5 82.3 82.9 84.5 86.7 88.0 89.5 92.3 95.3 95.3 87.7 78.2 170.8

500 77.3 79.3 80.6 81.8 82.9 84.7 86.5 88.0 89.5 92.3 92.8 85.3 75.8 169.6

630 75.0 78.4 79.6 80.7 81.9 83.6 85.0 87.3 89.0 91.2 90.9 83.0 73.5 168.8

800 77.7 77.6 79.2 81.6 83.2 84.1 86.5 87.8 89.5 89.3 82.0 71.6 168.1

1000 70.8 75.3 77.4 78.8 80.1 82.1 83.5 85.4 86.6 87.9 86.7 79.4 69.0 167.0

1250 69.4 73.6 76.3 78.4 79.9 82.4 82.0 84.1 85.3 86.4 85.6 77.4 66.6 166.7

1600 66.9 71.3 74.4 75.6 78.0 80.0 80.7 81.6 82.9 84.0 83.2 74.0 62.2 165.7

2000 62.7 68.5 71.2 72.8 75.2 76.9 78.3 79.8 80.4 80.8 79.7 70.2 56.4 164.7

2500 58.2 63.6 67.9 69.9 71.8 74.3 75.7 76.0 76.8 76.0 65.5 49.0 163.9

3150 50.6 58.6 62.0 64.9 67.8 70.9 71.9 71.3 72.6 71.6 69.5 58.0 36.2 163.6

4000 40.0 49.5 54.2 57.4 60.7 63.9 65.2 65.1 65.6 64.6 61.8 46.3 17.5 164.2

5000 25.7 37.7 44.8 48.0 52.7 55.8 55.9 55.8 57.1 54.7 50.3 30.3 165.9

6300 3.5 19.2 27.5 33.7 37.8 42.1 42.4 41.5 42.5 40.3 31.3 3.9 168.7

8000 172.4 176.0

8000 172.4 176.0

8000 172.4 176.0

8000 172.4 176.0

8000 172.4 176.0

8000 172.4 176.0

ORIGINAL FILED IN
OF FOUR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-9412 X9412C
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 50 | 50 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PWL | 87.7 | 86.7 | 83.0 | 81.8 | 81.4 | 84.5 | 84.9 | 86.5 | 89.2 | 101.3 | 95.9 | 95.1 | 98.8 | 134.9 |
| 63 | 88.5 | 88.8 | 86.8 | 87.9 | 91.0 | 91.4 | 91.0 | 91.4 | 92.6 | 110.4 | 99.7 | 98.4 | 99.2 | 142.1 |
| 80 | 90.8 | 95.8 | 90.1 | 91.1 | 91.7 | 94.3 | 94.5 | 93.9 | 94.8 | 97.0 | 97.0 | 97.0 | 97.0 | 137.0 |
| 100 | 90.3 | 94.6 | 90.4 | 91.7 | 91.7 | 92.9 | 94.5 | 95.4 | 94.3 | 94.7 | 97.6 | 102.3 | 103.7 | 137.9 |
| 125 | 87.6 | 89.9 | 92.2 | 92.8 | 94.7 | 94.8 | 95.2 | 94.0 | 97.2 | 104.1 | 107.0 | 108.0 | 141.2 | |
| 160 | 86.3 | 87.3 | 87.6 | 88.8 | 90.2 | 88.8 | 90.2 | 90.9 | 92.8 | 104.3 | 107.0 | 109.9 | 141.4 | |
| 200 | 85.8 | 85.8 | 85.8 | 85.9 | 87.5 | 90.3 | 91.5 | 95.1 | 98.0 | 100.2 | 104.8 | 110.0 | 112.1 | 143.6 |
| 250 | 84.0 | 87.6 | 87.3 | 88.6 | 89.2 | 91.1 | 93.5 | 96.1 | 98.3 | 104.4 | 110.0 | 113.5 | 113.6 | 146.6 |
| 315 | 83.8 | 86.9 | 87.1 | 87.7 | 88.8 | 92.1 | 94.5 | 97.2 | 101.3 | 108.0 | 111.3 | 114.5 | 113.7 | 147.7 |
| 400 | 86.6 | 87.6 | 88.6 | 88.9 | 89.8 | 93.1 | 95.5 | 99.2 | 104.9 | 112.5 | 116.5 | 112.7 | 150.4 | |
| 500 | 86.2 | 88.5 | 89.5 | 90.3 | 91.4 | 93.8 | 96.4 | 99.8 | 105.0 | 113.3 | 117.7 | 117.1 | 110.6 | 151.5 |
| 630 | 87.6 | 90.1 | 89.9 | 91.4 | 92.3 | 94.4 | 97.5 | 100.4 | 104.7 | 114.9 | 119.1 | 116.8 | 107.7 | 152.2 |
| 800 | 90.2 | 90.2 | 90.8 | 91.3 | 93.4 | 95.8 | 97.1 | 100.6 | 105.9 | 115.1 | 119.5 | 115.1 | 104.1 | 152.2 |
| 1000 | 94.7 | 95.0 | 93.8 | 94.1 | 94.4 | 95.8 | 97.9 | 101.3 | 106.6 | 115.1 | 119.7 | 114.2 | 103.6 | 152.3 |
| 1250 | 99.2 | 101.0 | 98.1 | 96.8 | 97.2 | 97.5 | 99.4 | 102.3 | 107.2 | 114.4 | 119.8 | 112.9 | 102.9 | 152.1 |
| 1600 | 103.5 | 103.1 | 102.8 | 100.4 | 98.7 | 98.8 | 101.6 | 103.7 | 108.1 | 114.0 | 120.1 | 112.5 | 103.7 | 152.5 |
| 2000 | 101.4 | 103.3 | 103.5 | 103.1 | 102.0 | 99.3 | 99.7 | 103.1 | 108.3 | 114.9 | 117.5 | 111.9 | 102.6 | 151.4 |
| 2500 | 98.9 | 100.0 | 100.5 | 102.8 | 102.9 | 103.2 | 102.1 | 103.8 | 107.5 | 113.3 | 116.2 | 109.5 | 101.8 | 150.2 |
| 3150 | 98.0 | 98.8 | 98.6 | 99.9 | 101.0 | 103.3 | 103.7 | 104.1 | 108.2 | 112.1 | 115.2 | 109.0 | 101.1 | 149.5 |
| 4000 | 97.7 | 98.0 | 98.3 | 98.1 | 98.9 | 100.8 | 100.6 | 105.6 | 107.4 | 111.5 | 113.0 | 107.2 | 99.9 | 148.3 |
| 5000 | 96.2 | 97.8 | 97.3 | 98.3 | 98.2 | 99.2 | 101.3 | 104.9 | 107.2 | 110.3 | 112.1 | 105.4 | 98.5 | 147.5 |
| 6300 | 95.9 | 97.8 | 97.2 | 97.5 | 98.7 | 99.4 | 100.9 | 104.3 | 107.1 | 109.0 | 110.5 | 104.8 | 97.1 | 146.9 |
| 8000 | 93.3 | 96.2 | 96.5 | 97.0 | 98.4 | 100.4 | 103.1 | 106.4 | 108.6 | 108.6 | 107.5 | 102.2 | 96.2 | 146.0 |
| 10000 | 94.3 | 94.8 | 95.6 | 95.8 | 97.3 | 98.5 | 99.6 | 101.7 | 105.1 | 106.8 | 107.5 | 102.2 | 96.3 | 145.5 |
| 12500 | 91.7 | 92.9 | 93.9 | 94.1 | 95.2 | 96.7 | 98.1 | 99.6 | 102.3 | 104.3 | 106.0 | 100.4 | 94.0 | 144.3 |
| 16000 | 88.4 | 90.6 | 91.1 | 91.9 | 92.5 | 94.7 | 96.1 | 98.4 | 100.2 | 101.9 | 103.4 | 98.3 | 92.2 | 143.4 |
| 20000 | 85.8 | 87.3 | 88.4 | 89.7 | 90.2 | 92.5 | 93.8 | 95.2 | 97.7 | 98.7 | 100.3 | 95.9 | 90.1 | 142.3 |
| 25000 | 81.8 | 84.5 | 85.0 | 85.0 | 87.1 | 89.9 | 91.7 | 94.6 | 94.7 | 96.8 | 92.6 | 85.6 | 81.3 | 141.3 |
| 31500 | 76.5 | 80.2 | 80.5 | 81.0 | 83.0 | 85.8 | 87.0 | 88.2 | 90.4 | 92.2 | 93.4 | 88.2 | 80.9 | 140.8 |
| 40000 | 72.0 | 75.7 | 77.4 | 77.1 | 79.8 | 82.1 | 83.5 | 84.4 | 87.6 | 89.0 | 90.9 | 84.1 | 76.6 | 141.6 |
| 50000 | 67.8 | 72.4 | 71.6 | 72.4 | 75.0 | 78.0 | 78.8 | 79.6 | 83.1 | 85.8 | 87.4 | 79.4 | 70.3 | 142.2 |
| 63000 | 63.0 | 72.4 | 69.0 | 69.4 | 71.4 | 74.5 | 75.3 | 74.8 | 79.7 | 82.4 | 86.3 | 75.0 | 64.9 | 144.8 |
| 80000 | 61.4 | 72.5 | 69.9 | 66.1 | 67.3 | 71.1 | 71.5 | 68.6 | 74.4 | 79.8 | 85.5 | 70.1 | 56.5 | 149.5 |
| DBA | 110.0 | 110.9 | 110.6 | 110.7 | 110.7 | 111.4 | 112.5 | 115.0 | 118.8 | 124.7 | 128.7 | 123.8 | 116.5 | |
| PWL | 123.0 | 123.3 | 123.3 | 123.9 | 124.8 | 126.1 | 126.4 | 128.7 | 131.9 | 136.9 | 140.5 | 135.4 | 129.3 | |
| DBA | 121.9 | 123.3 | 123.3 | 123.9 | 124.2 | 125.4 | 126.4 | 128.7 | 131.9 | 136.9 | 140.0 | 135.4 | 129.3 | |
| DBA | 109.6 | 110.7 | 110.4 | 110.5 | 110.7 | 111.7 | 112.9 | 115.3 | 119.0 | 125.2 | 129.0 | 125.6 | 121.4 | 163.2 |

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICLE = ADH074 TEST DATE = 08-24-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVL = 400. FPS
 IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 85.00 PAMB HG = 29.75 RELHUM = 41.6 PCT
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR

FINI = LBS XNL = RPM XNH = RPM V8 = 2130.0 FPS AE8 = 25.3 SQ IN
 FNRM = LBS XNL = RPM XNHR = RPM V18 = 2130.0 FPS AE18 = 0. SQ IN
 RUNPT = 81F-400-9412 TAPE = X9412C TEST PT NO = 9412 NC = 862 CORR FAN SPEED = RPM

ORIGINAL PAGE 17
OF POOR QUALITY

DATPRGC - FLIRAN

06/18/82 17.411 PAGE 3

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-9412 X9412F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.
FREQ 50 63 80 100 125 160
PWL200
250
315
315
400
400
500
500
630
630
800
97.6
1000
1250
1600
2000
2500
3150
4000
5000
6300
8000
10000
12500
16000
20000
25000
31500
40000
50000
63000
80000

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|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| DBA | 188.8 | 195.6 | 191.4 | 190.4 | 192.7 | 195.2 | 194.1 | 190.6 | 195.5 | 200.1 | 206.0 | 194.0 | 188.1 |
| PWL | 128.8 | 128.8 | 127.7 | 127.4 | 126.3 | 126.4 | 126.2 | 127.6 | 131.6 | 136.0 | 139.4 | 137.1 | 136.3 |
| GASPL | 116.3 | 116.3 | 115.0 | 114.1 | 113.5 | 113.4 | 113.4 | 114.7 | 119.2 | 124.3 | 128.6 | 124.9 | 163.8 |
| 60000 | 66.7 | 74.8 | 80.5 | 74.0 | 79.0 | 81.0 | 80.3 | 79.7 | 85.6 | 87.8 | 92.1 | 83.7 | 145.7 |
| 63000 | 73.0 | 76.3 | 79.0 | 73.3 | 76.0 | 77.5 | 76.8 | 74.8 | 81.8 | 86.7 | 92.7 | 80.3 | 149.7 |
| 50000 | 78.1 | 80.5 | 80.8 | 79.0 | 79.6 | 81.0 | 80.3 | 79.7 | 85.6 | 87.8 | 92.1 | 83.7 | 145.7 |
| 40000 | 83.0 | 85.4 | 84.3 | 83.3 | 84.4 | 85.1 | 85.1 | 84.7 | 88.1 | 90.4 | 92.9 | 87.6 | 144.1 |
| 31500 | 86.3 | 87.9 | 86.9 | 87.6 | 88.6 | 88.6 | 88.6 | 86.6 | 92.6 | 93.6 | 96.1 | 92.8 | 143.8 |
| 25000 | 91.1 | 91.9 | 92.1 | 92.4 | 91.1 | 92.9 | 93.8 | 92.7 | 94.8 | 96.4 | 98.2 | 96.5 | 144.1 |
| 20000 | 94.4 | 95.8 | 95.4 | 95.2 | 94.2 | 95.5 | 96.1 | 96.4 | 98.9 | 101.6 | 100.8 | 101.0 | 145.1 |
| 16000 | 98.0 | 98.5 | 98.6 | 97.9 | 96.5 | 97.7 | 97.9 | 99.1 | 101.7 | 102.5 | 104.7 | 103.5 | 146.2 |
| 12500 | 100.2 | 100.9 | 100.8 | 100.1 | 99.2 | 99.7 | 99.8 | 100.2 | 103.2 | 104.6 | 107.0 | 105.2 | 146.9 |
| 10000 | 101.4 | 102.5 | 101.7 | 101.1 | 101.3 | 101.5 | 101.3 | 102.3 | 104.5 | 106.4 | 108.8 | 107.5 | 147.6 |
| 8000 | 103.1 | 104.3 | 102.9 | 102.2 | 101.1 | 101.4 | 102.0 | 103.5 | 107.1 | 108.6 | 110.0 | 108.1 | 148.5 |
| 6300 | 103.2 | 104.2 | 102.9 | 102.7 | 102.4 | 102.4 | 102.4 | 104.7 | 107.9 | 109.3 | 110.6 | 108.6 | 149.3 |
| 5000 | 104.6 | 104.3 | 102.5 | 102.7 | 102.2 | 102.9 | 105.2 | 108.5 | 110.1 | 112.3 | 110.0 | 109.8 | 149.3 |
| 4000 | 105.6 | 105.5 | 104.2 | 104.3 | 102.5 | 103.4 | 104.3 | 105.8 | 108.4 | 111.4 | 113.8 | 110.5 | 150.2 |
| 3150 | 106.5 | 106.6 | 105.9 | 106.9 | 104.2 | 105.3 | 104.4 | 103.8 | 108.7 | 112.6 | 114.8 | 112.5 | 151.2 |
| 2500 | 107.3 | 108.2 | 107.4 | 106.1 | 105.8 | 104.8 | 102.4 | 103.0 | 108.9 | 112.8 | 116.7 | 114.0 | 152.0 |
| 2000 | 110.6 | 108.9 | 107.4 | 103.5 | 104.1 | 100.6 | 99.7 | 101.9 | 107.7 | 113.4 | 117.0 | 113.9 | 152.1 |
| 1600 | 106.1 | 106.6 | 102.3 | 99.8 | 100.7 | 99.8 | 101.2 | 102.2 | 108.0 | 114.5 | 117.9 | 115.7 | 152.3 |
| 1250 | 100.4 | 99.7 | 97.4 | 96.7 | 98.9 | 98.3 | 98.9 | 100.5 | 107.5 | 113.2 | 120.1 | 115.9 | 152.8 |
| 1000 | 97.6 | 96.5 | 95.7 | 94.8 | 96.0 | 96.4 | 97.2 | 99.4 | 106.3 | 113.3 | 119.3 | 116.0 | 152.3 |
| 800 | 95.2 | 96.5 | 94.9 | 94.8 | 95.4 | 95.8 | 96.3 | 98.5 | 105.6 | 113.9 | 119.3 | 117.2 | 152.6 |
| 630 | 93.9 | 94.9 | 94.5 | 93.8 | 94.2 | 94.8 | 96.6 | 98.4 | 104.3 | 113.2 | 118.1 | 116.6 | 151.6 |
| 500 | 94.3 | 94.0 | 93.6 | 92.3 | 93.3 | 94.1 | 95.7 | 98.1 | 102.9 | 112.9 | 117.3 | 117.1 | 151.2 |
| 400 | 91.5 | 93.3 | 92.1 | 91.1 | 91.6 | 93.4 | 94.7 | 97.3 | 103.4 | 111.4 | 115.8 | 116.7 | 150.4 |
| 315 | 91.5 | 93.8 | 92.1 | 91.8 | 90.6 | 92.3 | 93.2 | 94.4 | 102.6 | 109.4 | 112.1 | 113.9 | 147.8 |
| 250 | 91.5 | 93.8 | 92.1 | 91.8 | 90.8 | 91.1 | 91.6 | 92.5 | 97.8 | 103.6 | 106.4 | 110.1 | 143.9 |

ORIGINAL PAGE IS
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VEHICLE = ADH074 TEST DATE = 08-24-81
 IAPLHA = SB59 LEGA / = NO
 WIND DIR = DEG WIND VEL = MPH
 LOCATION = C41 ANECH CH CONFIG = 4
 MODEL = 4 FLTVEL = 400. FPS
 PAMB HG = 29.75 RELHUM = 41.6 PCT
 NBFR =

FNINI = LBS XNL = RPM
 FNRAMB = LBS XNL = RPM
 XNH XNHR = RPM
 V8 = 2130.0 FPS AE8 = 25.3 SQ IN
 V8 = 862 = 862
 CORR FAN SPEED = RPM

RUNPT = 81F-400-9412 TAPE = X9412F
 TEST PT NO = 9412 NC = 862
 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - B1F-400-9412 X94121

ANGLES MEASURED FROM INLET, DEGREES

| | | | | | | | | | | | | | | |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------------|------------|
| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL |
| 50 | 69.5 | 72.6 | 72.7 | 72.4 | 73.3 | 75.2 | 76.4 | 76.6 | 78.6 | 84.0 | 90.9 | 93.8 | 92.5 | 86.0 167.8 |
| 63 | 72.2 | 73.5 | 74.2 | 73.6 | 75.0 | 75.9 | 77.4 | 79.4 | 83.5 | 92.4 | 95.2 | 92.8 | 85.1 168.7 | |
| 80 | 71.8 | 74.4 | 75.0 | 75.0 | 75.9 | 76.6 | 78.3 | 79.6 | 84.8 | 92.7 | 96.0 | 92.3 | 84.1 169.0 | |
| 100 | 73.1 | 75.9 | 75.4 | 76.1 | 77.0 | 77.5 | 77.9 | 79.7 | 86.1 | 93.3 | 97.1 | 92.8 | 86.1 170.0 | |
| 125 | 75.3 | 75.8 | 76.1 | 75.9 | 77.6 | 78.1 | 78.8 | 80.6 | 86.7 | 92.6 | 97.1 | 91.4 | 85.4 169.7 | |
| 160 | 78.0 | 78.9 | 77.7 | 77.7 | 80.4 | 79.9 | 80.3 | 81.5 | 87.7 | 92.4 | 97.6 | 91.1 | 86.2 170.3 | |
| 200 | 83.3 | 85.6 | 82.4 | 80.6 | 82.0 | 81.3 | 82.5 | 83.0 | 88.1 | 93.5 | 95.2 | 90.6 | 85.0 169.8 | |
| 250 | 87.5 | 87.6 | 87.2 | 84.1 | 85.2 | 81.8 | 80.8 | 82.6 | 87.5 | 92.1 | 94.0 | 88.3 | 84.0 169.5 | |
| 315 | 83.8 | 86.5 | 87.0 | 86.4 | 86.6 | 85.8 | 83.2 | 83.3 | 88.5 | 91.1 | 93.2 | 87.8 | 83.1 169.5 | |
| 400 | 82.6 | 84.5 | 85.1 | 87.0 | 84.7 | 86.0 | 84.9 | 83.8 | 87.9 | 90.6 | 85.7 | 81.2 | 168.6 | |
| 500 | 81.2 | 83.0 | 84.0 | 82.7 | 83.8 | 84.6 | 85.6 | 87.3 | 88.9 | 89.3 | 83.1 | 78.7 | 167.6 | |
| 630 | 79.6 | 81.4 | 82.3 | 82.0 | 82.3 | 82.9 | 84.7 | 87.0 | 87.2 | 87.4 | 81.9 | 76.4 | 166.7 | |
| 800 | 77.8 | 81.0 | 82.2 | 82.4 | 82.3 | 82.2 | 83.8 | 86.1 | 86.1 | 85.1 | 79.8 | 74.5 | 166.1 | |
| 1000 | 77.2 | 80.8 | 80.9 | 81.2 | 80.7 | 81.1 | 81.6 | 82.5 | 84.1 | 84.1 | 78.6 | 73.8 | 166.0 | |
| 1250 | 75.0 | 78.7 | 79.4 | 79.9 | 80.8 | 81.2 | 80.6 | 81.1 | 82.3 | 82.5 | 82.4 | 76.3 | 165.0 | |
| 1600 | 72.9 | 76.4 | 78.1 | 78.5 | 78.3 | 79.0 | 78.9 | 78.7 | 80.6 | 80.3 | 79.7 | 73.5 | 164.3 | |
| 2000 | 69.8 | 73.4 | 75.6 | 76.1 | 75.5 | 76.9 | 77.4 | 78.6 | 77.4 | 76.5 | 70.3 | 62.3 | 163.7 | |
| 2500 | 64.3 | 69.5 | 71.5 | 72.8 | 72.7 | 74.1 | 74.5 | 74.0 | 75.0 | 72.6 | 71.6 | 64.7 | 162.5 | |
| 3150 | 57.7 | 63.1 | 66.3 | 68.4 | 68.2 | 70.3 | 70.9 | 68.7 | 69.0 | 67.7 | 64.9 | 55.4 | 161.5 | |
| 4000 | 46.7 | 54.8 | 58.3 | 59.7 | 61.7 | 63.3 | 62.7 | 61.4 | 62.9 | 60.2 | 56.5 | 42.8 | 161.3 | |
| 5000 | 38.6 | 44.4 | 48.4 | 50.6 | 53.4 | 54.7 | 54.1 | 52.0 | 52.3 | 49.3 | 43.6 | 23.9 | 163.1 | |
| 6300 | 10.9 | 25.3 | 32.8 | 35.5 | 38.6 | 40.8 | 39.3 | 36.2 | 37.7 | 32.6 | 24.9 | | 167.1 | |
| 8000 | 4.8 | 10.6 | 16.8 | 19.5 | 17.6 | 12.1 | 12.5 | 6.7 | | | | | 165.6 | |
| 10000 | | | | | | | | | | | | | | |
| 12500 | | | | | | | | | | | | | | |
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| 92500 | | | | | | | | | | | | | | |
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432

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|---|------|--------|-----------|-------|----------|----------|-------|--------------|------------|-------|-------|---------|------|-------|
| QASPL | 92.4 | 94.2 | 94.1 | 93.9 | 93.9 | 93.8 | 93.6 | 94.5 | 98.4 | 102.8 | 105.7 | 101.3 | 95.1 | 181.1 |
| PNL | 97.8 | 99.6 | 100.1 | 100.7 | 100.3 | 100.8 | 100.5 | 101.0 | 104.0 | 106.5 | 108.0 | 102.7 | 96.6 | |
| PFLT | 98.9 | 99.6 | 100.8 | 101.3 | 100.3 | 100.8 | 100.5 | 101.0 | 104.6 | 107.0 | 108.0 | 102.7 | 96.6 | |
| DBA | 87.1 | 89.5 | 90.0 | 90.4 | 90.1 | 90.5 | 90.4 | 91.1 | 93.6 | 94.8 | 95.7 | 90.1 | 85.0 | |
| MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9 | | | | | | | | | | | | | | |
| NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514 | | | | | | | | | | | | | | |
| VEHICL | = | ADH074 | TEST DATE | = | 08-24-81 | LOCAT | = | C41 ANECH CH | CONF16 | = | 4 | MODEL | = | 4 |
| IAPHA | = | SB59 | LEGA | = | NO | PWL AREA | = | FULL SPHERE | TAMB F | = | 85.00 | PAMB HG | = | 29.75 |
| WIND DIR | = | | DEG | | | EXT DIST | = | 2400.0 FT | EXT CONF16 | = | SL | MIKE HT | = | |
| FNINI | = | | LBS | | | XNLR | | | RPM | | | V8 | | |
| FNAMB | = | | LBS | | | XNHR | | | RPM | | | V8 | | |
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MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9
NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH074 TEST DATE = 08-24-81
IAPLHA = SB59 LEGA / = NO
WIND DIR = DEG WIND VEL = MPH
FNINI = LBS XNL RPM XNHR = RPM
FNRAMB = LBS XNLR = RPM
RPM XNHR = RPM
V8 = 2130.0 FPS AE8 = 25.3 SQ IN
CORR FAN SPEED = RPM
RPM

IDENTIFICATION - MODEL 81F-ZER-9413 X9413C

BACKGROUNd 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | PWL |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 84.2 | 83.7 | 82.0 | 84.0 | 84.6 | 85.2 | 85.1 | 86.5 | 89.2 | 101.3 | 94.9 | 94.9 | 95.5 |
| 63 | 87.7 | 87.8 | 88.8 | 89.8 | 91.7 | 92.0 | 91.7 | 90.3 | 93.3 | 109.9 | 100.0 | 99.2 | 99.8 |
| 80 | 90.0 | 94.6 | 89.3 | 90.1 | 91.7 | 94.1 | 94.2 | 93.1 | 94.8 | 94.4 | 96.5 | 99.0 | 100.1 |
| 100 | 91.1 | 96.1 | 91.9 | 93.4 | 93.5 | 94.4 | 95.5 | 97.2 | 95.0 | 97.4 | 103.5 | 104.7 | 139.3 |
| 125 | 87.4 | 90.4 | 92.2 | 93.7 | 94.3 | 96.4 | 96.3 | 96.7 | 96.3 | 99.5 | 106.4 | 108.3 | 142.8 |
| 160 | 87.8 | 85.6 | 89.6 | 89.6 | 89.7 | 91.3 | 93.7 | 93.9 | 95.6 | 100.7 | 106.0 | 109.0 | 143.1 |
| 200 | 87.5 | 89.9 | 89.9 | 92.0 | 94.3 | 95.0 | 96.9 | 100.8 | 103.4 | 108.0 | 112.5 | 114.4 | 146.2 |
| 250 | 86.8 | 92.6 | 92.1 | 92.9 | 93.0 | 94.1 | 97.2 | 99.9 | 107.9 | 113.5 | 116.7 | 119.9 | 149.9 |
| 315 | 88.1 | 91.9 | 90.6 | 91.9 | 94.0 | 96.6 | 98.3 | 100.2 | 103.8 | 111.2 | 114.8 | 117.4 | 151.3 |
| 400 | 90.1 | 92.1 | 93.4 | 92.9 | 93.5 | 96.1 | 98.8 | 102.2 | 107.9 | 115.5 | 118.3 | 119.8 | 153.6 |
| 500 | 90.2 | 93.2 | 94.0 | 95.1 | 96.8 | 99.1 | 102.5 | 107.2 | 116.3 | 120.2 | 121.1 | 117.8 | 154.9 |
| 630 | 91.8 | 94.1 | 94.9 | 95.5 | 97.6 | 100.5 | 104.2 | 107.7 | 116.2 | 122.1 | 121.3 | 119.4 | 156.1 |
| 800 | 96.7 | 95.0 | 95.5 | 96.1 | 97.4 | 99.0 | 100.9 | 104.3 | 108.9 | 118.1 | 122.2 | 121.1 | 156.1 |
| 1000 | 102.2 | 103.0 | 100.8 | 99.3 | 98.9 | 100.3 | 102.7 | 105.1 | 110.4 | 118.1 | 122.5 | 121.7 | 156.5 |
| 1250 | 100.7 | 101.0 | 100.7 | 101.0 | 102.2 | 103.4 | 104.9 | 107.6 | 109.3 | 112.5 | 115.0 | 116.3 | 158.8 |
| 1500 | 100.2 | 101.0 | 101.0 | 101.3 | 102.2 | 103.4 | 107.9 | 107.9 | 110.2 | 113.6 | 116.3 | 111.1 | 151.4 |
| 2000 | 105.7 | 105.6 | 105.2 | 103.1 | 102.0 | 102.3 | 103.7 | 107.1 | 111.0 | 117.4 | 121.0 | 117.4 | 154.8 |
| 2500 | 103.9 | 104.5 | 103.8 | 103.8 | 104.2 | 105.0 | 107.8 | 111.0 | 117.1 | 119.4 | 115.7 | 113.8 | 153.9 |
| 3150 | 103.0 | 103.3 | 103.6 | 104.0 | 106.0 | 107.4 | 110.7 | 115.1 | 119.0 | 114.5 | 110.1 | 103.1 | 153.1 |
| 4000 | 101.2 | 102.3 | 102.0 | 102.6 | 104.6 | 106.7 | 108.3 | 110.6 | 114.5 | 117.0 | 112.9 | 108.6 | 152.1 |
| 5000 | 100.2 | 101.0 | 101.0 | 101.3 | 102.2 | 103.4 | 107.9 | 107.9 | 110.2 | 113.6 | 116.3 | 111.1 | 151.4 |
| 6300 | 99.3 | 99.3 | 101.1 | 100.7 | 101.0 | 102.2 | 103.4 | 107.9 | 109.3 | 112.5 | 115.0 | 111.3 | 150.8 |
| 8000 | 97.2 | 99.1 | 99.9 | 100.0 | 101.0 | 103.1 | 104.2 | 106.6 | 108.1 | 111.0 | 109.2 | 104.7 | 149.7 |
| 10000 | 96.3 | 97.8 | 98.8 | 99.8 | 100.5 | 102.8 | 103.4 | 105.7 | 107.6 | 109.7 | 112.2 | 108.1 | 149.3 |
| 12500 | 96.6 | 96.1 | 97.3 | 97.6 | 99.4 | 101.8 | 103.3 | 105.5 | 108.5 | 111.2 | 109.7 | 104.7 | 148.7 |
| 16000 | 91.4 | 94.8 | 95.1 | 96.7 | 98.6 | 99.8 | 102.1 | 103.7 | 105.8 | 108.1 | 104.0 | 99.7 | 147.5 |
| 20000 | 88.2 | 90.7 | 91.8 | 93.1 | 94.1 | 96.4 | 97.5 | 98.8 | 101.1 | 103.6 | 106.0 | 101.8 | 146.9 |
| 25000 | 83.9 | 87.6 | 88.3 | 89.1 | 90.7 | 93.8 | 94.8 | 95.8 | 98.7 | 100.1 | 102.9 | 98.8 | 146.2 |
| 31500 | 79.1 | 84.2 | 84.3 | 85.1 | 87.1 | 90.2 | 91.6 | 92.8 | 95.2 | 98.5 | 101.4 | 95.8 | 147.0 |
| 40000 | 75.1 | 79.5 | 80.9 | 81.7 | 84.1 | 86.4 | 88.1 | 89.7 | 93.4 | 95.7 | 100.4 | 93.5 | 148.9 |
| 50000 | 71.1 | 74.9 | 76.4 | 77.7 | 79.8 | 83.1 | 84.4 | 85.2 | 90.6 | 94.5 | 98.2 | 90.4 | 150.9 |
| 63000 | 65.4 | 71.2 | 72.0 | 74.8 | 76.0 | 80.2 | 81.2 | 89.0 | 93.5 | 98.2 | 89.1 | 78.5 | 155.4 |
| 80000 | 61.1 | 70.0 | 70.8 | 71.7 | 73.5 | 74.6 | 75.7 | 86.6 | 89.5 | 95.1 | 85.0 | 71.9 | 158.9 |
| DASPL | 113.2 | 113.9 | 113.6 | 113.5 | 113.7 | 115.0 | 116.3 | 118.7 | 121.9 | 128.3 | 132.1 | 130.8 | 128.2 |
| PWL | 125.8 | 126.8 | 126.7 | 126.9 | 127.9 | 129.7 | 131.8 | 134.6 | 140.2 | 143.5 | 140.9 | 137.6 | |
| PMLT | 127.0 | 127.8 | 127.5 | 127.8 | 127.9 | 129.7 | 131.8 | 134.6 | 140.2 | 144.1 | 140.9 | 137.6 | |
| DBA | 113.7 | 114.2 | 113.8 | 113.5 | 114.7 | 116.0 | 118.4 | 121.7 | 127.9 | 131.9 | 129.8 | 126.5 | |
| NASA SHOCK CELL/ANNULAR C-D PLUG NO2. SC-4/NAS3-22514 | | | | | | | | | | | | | |
| /EHTCL = ADH065 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CONFID = 4 MODEL = 4 PAMB HG = 29.72 MIKE HT = NBFR = 0. FLVEL = 43.9 PCT | | | | | | | | | | | | | |
| VAPLHA = SB59 DEO WIND VEL = MPH EXT DIST = 40.0 FT TAMB F = ARC FPS AE8 = 2131.6 CORR FAN SPEED = 25.3 SQ IN | | | | | | | | | | | | | |
| :NINB = LBS XNLR = RPM XNHR = RPM V8 = FPS AE8 = 25.3 SQ IN | | | | | | | | | | | | | |
| :NRAMB = LBS XNLR = RPM XNHR = RPM V8 = FPS AE8 = 25.3 SQ IN | | | | | | | | | | | | | |
| :NINP = 81F-ZER-9413 TAPE = X9413C TEST PT NO = 9413 NC = 862 CORR FAN SPEED = 25.3 SQ IN | | | | | | | | | | | | | |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-9413 X9413F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|---|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 80 | 84.2 | 83.7 | 82.0 | 84.0 | 84.6 | 85.2 | 85.1 | 86.5 | 89.2 | 101.3 | 94.9 | 94.9 | 95.5 |
| 63 | 87.7 | 87.8 | 88.8 | 89.8 | 91.7 | 92.0 | 91.7 | 90.3 | 93.3 | 109.9 | 100.0 | 99.2 | 99.8 |
| 50 | 84.2 | 83.7 | 82.0 | 84.0 | 84.6 | 85.2 | 85.1 | 86.5 | 89.2 | 101.3 | 94.9 | 94.9 | 95.5 |
| 100 | 91.1 | 96.1 | 91.9 | 93.4 | 93.5 | 94.4 | 93.5 | 97.2 | 95.0 | 97.4 | 99.3 | 104.7 | 139.3 |
| 125 | 87.4 | 90.4 | 92.2 | 93.7 | 94.3 | 96.4 | 96.3 | 96.7 | 96.3 | 99.5 | 106.4 | 108.3 | 142.8 |
| 150 | 87.8 | 85.6 | 89.6 | 89.6 | 89.7 | 91.3 | 93.7 | 93.9 | 95.6 | 100.7 | 106.0 | 109.0 | 143.1 |
| 200 | 87.5 | 87.8 | 89.3 | 89.9 | 92.0 | 94.3 | 95.0 | 96.9 | 100.8 | 103.4 | 108.0 | 112.5 | 146.2 |
| 250 | 86.8 | 92.6 | 92.9 | 93.0 | 94.1 | 97.2 | 97.2 | 99.9 | 101.6 | 107.9 | 113.5 | 116.7 | 149.9 |
| 315 | 88.1 | 91.9 | 90.6 | 91.9 | 94.0 | 96.6 | 96.3 | 100.2 | 103.8 | 111.2 | 114.8 | 117.4 | 151.3 |
| 400 | 90.1 | 92.1 | 93.4 | 92.9 | 93.5 | 96.1 | 96.8 | 102.2 | 107.9 | 115.5 | 118.3 | 117.7 | 153.6 |
| 500 | 90.2 | 93.2 | 92.8 | 94.0 | 95.1 | 96.8 | 99.1 | 102.5 | 107.2 | 116.3 | 120.2 | 121.1 | 154.9 |
| 630 | 91.8 | 94.1 | 94.9 | 95.5 | 97.6 | 100.5 | 104.2 | 107.7 | 118.2 | 122.1 | 121.3 | 119.4 | 156.1 |
| 800 | 96.7 | 95.0 | 95.5 | 96.1 | 97.4 | 99.0 | 100.9 | 104.3 | 108.9 | 118.1 | 122.2 | 121.1 | 156.1 |
| 1000 | 102.2 | 103.0 | 100.8 | 99.3 | 100.3 | 102.7 | 105.1 | 110.4 | 118.1 | 122.5 | 121.2 | 117.4 | 156.5 |
| 1250 | 100.7 | 104.8 | 103.6 | 103.4 | 103.7 | 105.8 | 110.5 | 118.1 | 123.0 | 123.0 | 121.2 | 117.4 | 156.6 |
| 1500 | 105.5 | 103.1 | 103.3 | 102.1 | 101.7 | 102.8 | 105.1 | 107.2 | 111.1 | 117.5 | 123.1 | 120.0 | 156.3 |
| 2000 | 105.7 | 105.6 | 105.2 | 103.1 | 102.0 | 102.3 | 103.7 | 107.1 | 111.0 | 117.4 | 121.0 | 117.4 | 154.8 |
| 2500 | 103.9 | 104.5 | 105.0 | 103.8 | 104.2 | 105.0 | 107.8 | 111.0 | 117.1 | 119.4 | 115.7 | 111.8 | 153.9 |
| 3150 | 103.0 | 103.8 | 103.3 | 103.6 | 104.0 | 106.0 | 105.7 | 107.4 | 110.7 | 115.1 | 119.0 | 114.5 | 153.1 |
| 4000 | 101.2 | 102.3 | 102.0 | 102.0 | 102.6 | 104.6 | 106.7 | 108.3 | 110.6 | 114.5 | 117.0 | 112.9 | 152.1 |
| 5000 | 100.2 | 101.0 | 101.0 | 101.3 | 102.2 | 103.4 | 105.3 | 107.6 | 110.2 | 113.6 | 116.3 | 111.1 | 151.4 |
| 6300 | 99.3 | 101.0 | 100.7 | 102.2 | 103.4 | 104.9 | 107.6 | 109.3 | 112.5 | 115.0 | 111.3 | 106.6 | 150.8 |
| 8000 | 97.2 | 99.1 | 99.9 | 100.0 | 101.0 | 103.1 | 104.2 | 106.6 | 108.1 | 111.0 | 109.2 | 104.7 | 149.7 |
| 10000 | 96.3 | 97.8 | 98.8 | 99.8 | 100.5 | 102.8 | 103.4 | 105.7 | 107.6 | 109.7 | 112.2 | 108.1 | 149.3 |
| 12500 | 94.6 | 96.1 | 97.3 | 97.6 | 99.4 | 100.9 | 101.8 | 103.3 | 105.5 | 108.5 | 111.2 | 106.1 | 148.7 |
| 15000 | 91.4 | 94.0 | 94.8 | 95.1 | 96.7 | 98.6 | 99.8 | 102.1 | 103.7 | 105.8 | 108.1 | 104.0 | 147.5 |
| 20000 | 88.2 | 90.7 | 91.8 | 93.1 | 94.1 | 96.4 | 97.5 | 98.8 | 101.1 | 103.6 | 106.0 | 101.8 | 146.9 |
| 25000 | 83.9 | 87.6 | 88.3 | 89.1 | 90.7 | 93.8 | 94.8 | 95.8 | 98.7 | 100.1 | 102.9 | 98.8 | 146.2 |
| 31500 | 79.1 | 84.2 | 85.1 | 87.1 | 90.2 | 91.6 | 92.8 | 95.2 | 96.5 | 101.4 | 95.5 | 88.8 | 147.0 |
| 40000 | 75.1 | 79.5 | 80.9 | 81.7 | 84.1 | 86.4 | 88.1 | 89.7 | 93.4 | 95.7 | 100.4 | 93.5 | 148.9 |
| 50000 | 71.1 | 74.9 | 76.4 | 77.7 | 79.8 | 83.1 | 84.4 | 85.2 | 90.6 | 94.5 | 98.2 | 90.4 | 150.9 |
| 63000 | 65.4 | 71.2 | 72.0 | 74.8 | 76.0 | 80.2 | 81.2 | 89.0 | 93.5 | 98.2 | 89.1 | 78.5 | 155.4 |
| 80000 | 61.1 | 70.0 | 70.8 | 71.7 | 73.5 | 74.6 | 75.7 | 76.7 | 86.6 | 89.5 | 95.1 | 85.0 | 158.9 |
| GASPL | 113.2 | 113.9 | 113.6 | 113.5 | 113.7 | 115.0 | 116.3 | 118.7 | 121.9 | 128.3 | 132.1 | 130.8 | 126.2 |
| PNL | 125.8 | 126.8 | 126.7 | 126.9 | 126.6 | 129.7 | 131.8 | 134.6 | 140.2 | 143.5 | 140.9 | 137.6 | 137.6 |
| DBA | 182.6 | 190.7 | 191.5 | 192.7 | 194.4 | 195.9 | 197.1 | 198.1 | 207.4 | 210.6 | 216.0 | 206.2 | 193.8 |
| MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0 , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES | | | | | | | | | | | | | |
| NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514 | | | | | | | | | | | | | |
| VEHICL | = ADH065 | | | | | | | | | | | | |
| IAPLHA | = SB59 | | | | | | | | | | | | |
| WIND DIR | = DEG | | | | | | | | | | | | |
| WIND VEL | = MPH | | | | | | | | | | | | |
| LOCAT | = C41 ANECH CH | | | | | | | | | | | | |
| CONFIG | = 4 | | | | | | | | | | | | |
| TAMB F | = 84.00 | | | | | | | | | | | | |
| EXT DIST | = 40.0 FT | | | | | | | | | | | | |
| EXT CONFIG | = ARC | | | | | | | | | | | | |
| MIKE HT | = 29.72 | | | | | | | | | | | | |
| PAMB HG | = 4 | | | | | | | | | | | | |
| FLTVEL | = 0. FPS | | | | | | | | | | | | |
| RELHUM | = 43.9 PCT | | | | | | | | | | | | |
| NBFR | = 0. FPS | | | | | | | | | | | | |
| FNINI | = | | | | | | | | | | | | |
| LBS XNL | = | | | | | | | | | | | | |
| RPM XNH | = | | | | | | | | | | | | |
| V8 | = 2131.6 FPS | | | | | | | | | | | | |
| AE8 | = 25.3 SQ IN | | | | | | | | | | | | |
| AE18 | = 0. SQ IN | | | | | | | | | | | | |
| CORR FAN SPEED | = | | | | | | | | | | | | |
| NC | = 862 | | | | | | | | | | | | |
| TEST PT NO | = 9413 | | | | | | | | | | | | |
| X9413F | = | | | | | | | | | | | | |
| TAPE | = | | | | | | | | | | | | |
| ER-9413 | = | | | | | | | | | | | | |
| RUNPT | = | | | | | | | | | | | | |

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434

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-9413 X94131

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 68.1 71.6 74.0 74.2 75.2 78.0 80.5 83.5 88.5 95.0 96.3 95.6 90.1 171.1

63 68.2 72.7 73.3 75.3 78.6 80.8 83.8 87.8 95.8 98.2 99.9 90.2 172.3

80 69.7 73.6 74.7 76.2 77.2 79.4 82.2 85.4 88.2 97.7 100.0 96.9 91.7 173.6

100 74.5 74.4 76.0 77.3 79.0 80.8 82.5 85.5 89.4 97.5 100.1 96.7 90.4 173.5

125 79.9 82.3 81.2 80.4 80.5 82.0 84.2 86.2 90.8 97.4 100.2 97.1 90.5 173.9

150 78.3 83.9 83.8 84.8 84.9 86.2 88.1 86.8 90.7 97.3 100.5 96.4 89.0 174.1

200 82.8 82.0 83.4 83.0 83.0 84.2 86.3 88.1 91.2 96.4 100.4 94.8 86.5 173.7

250 82.6 84.2 85.1 83.8 83.0 83.5 84.8 87.8 90.9 96.1 98.0 91.8 83.8 172.3

315 80.4 82.8 84.0 85.4 84.7 85.2 85.9 88.1 90.5 95.4 96.0 89.6 81.4 171.4

400 79.0 81.7 82.5 83.6 84.5 86.7 86.2 87.4 89.9 93.0 95.0 87.7 78.7 170.6

500 76.8 79.8 80.9 81.8 82.9 85.0 87.0 88.0 89.5 92.0 92.5 85.5 76.3 169.5

630 75.2 78.1 79.6 80.7 82.2 83.6 85.3 87.3 88.7 90.7 91.4 83.0 73.3 168.8

800 73.9 77.8 79.0 80.2 81.9 83.2 84.6 86.8 87.6 89.2 89.6 82.5 72.1 168.2

1000 71.3 75.6 77.9 79.0 80.6 82.8 83.7 85.6 86.1 87.4 87.2 79.7 69.0 167.1

1250 69.9 73.9 76.5 78.6 79.9 82.4 82.8 84.6 85.3 85.9 85.8 77.9 67.1 166.8

1600 67.4 71.6 74.7 76.1 78.5 80.2 81.0 81.8 82.9 84.0 84.0 74.5 62.2 166.1

2000 63.2 69.0 71.7 73.3 75.7 77.9 78.8 80.3 80.6 80.8 79.9 70.7 57.1 165.0

2500 58.2 64.4 67.9 70.7 72.5 75.1 75.9 76.4 77.2 77.3 76.0 65.7 49.5 164.4

3150 50.6 58.8 62.5 65.2 67.8 71.2 71.9 71.8 72.9 71.3 69.5 57.7 36.7 163.6

4000 39.5 50.8 54.7 57.9 61.2 64.7 65.7 65.6 65.1 61.8 45.5 18.5 164.4

5000 25.7 38.5 45.0 49.0 53.2 56.1 57.2 57.1 57.6 54.7 51.0 29.8 168.4

6300 4.0 19.7 28.5 34.2 38.8 42.8 43.4 41.7 42.7 39.3 31.0 2.6 168.4

8000 2.8 12.1 16.8 20.6 21.0 18.5 19.8 13.4 0.4 172.8

10000 176.4

12500 172.8

16000 168.4

80000
63000
50000
40000
31500
25000
20000
16000

CCF

ORIGINAL PAGE 13
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NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH065 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 0. FPS

IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 84.00 PAMB HG = 29.72 RELHUM = 43.9 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBRF =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2131.6 FPS AE8 = 25.3 SQ IN

FNAMB = LBS XNLR = RPM XNHR = RPM V8 = 2131.6 FPS AE8 = 25.3 SQ IN CORR FAN SPEED = RPM

ANGLES MEASURED FROM INLET, DEGREES

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ANGLES MEASURED FROM INLET, DEGREES

FREQ

40. 30. 20. 10. 0.

160. 150. 140. 130. 120. 110. 100. 90. 80. 70. 60. 50. 40. 30. 20. 10. 0.

PWL

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[illegible]

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-9414 X94141

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 70.0 73.0 72.7 72.6 73.3 75.2 76.2 77.4 79.7 84.4 92.7 95.6 92.9 86.2 169.0

63 72.1 73.7 74.8 73.5 75.2 76.2 77.4 79.7 84.4 92.7 95.6 92.9 86.2 169.0

80 71.8 74.9 75.3 75.0 77.1 78.1 80.5 84.8 89.5 92.5 96.5 92.6 84.3 169.3

100 73.6 76.2 75.4 76.8 78.0 80.2 86.1 93.1 97.7 92.8 86.9 170.3

125 75.8 76.1 76.4 76.7 77.8 79.1 81.1 87.1 92.5 97.7 91.6 85.6 170.1

160 77.9 78.9 77.6 77.9 80.9 80.9 81.5 87.9 93.0 98.2 90.9 86.0 170.6

200 83.5 86.0 82.6 81.3 82.0 82.7 83.2 88.0 93.6 95.6 90.2 84.9 169.9

250 88.3 88.4 87.7 85.2 85.7 86.6 86.5 83.9 83.7 88.2 91.3 94.1 87.2 82.1 169.7

315 83.5 86.6 87.3 86.9 86.6 86.5 83.9 83.7 88.2 91.3 94.1 87.2 82.1 169.7

400 82.8 84.7 85.1 86.2 84.5 86.5 85.1 84.2 88.5 90.6 91.7 85.5 81.0 168.9

500 80.7 83.0 83.0 83.7 82.7 84.1 85.0 86.2 87.6 89.4 89.7 82.7 77.9 167.8

630 79.8 81.6 82.5 82.5 83.1 83.3 85.0 87.3 88.0 88.0 81.3 75.8 167.1

800 78.1 81.4 81.8 82.4 83.0 82.6 84.0 85.7 87.1 85.4 80.0 74.0 166.4

1000 77.3 81.1 80.9 81.7 80.7 81.8 82.9 85.2 85.6 84.6 78.1 72.7 166.2

1250 75.0 78.7 79.9 80.4 80.5 81.9 80.9 81.9 83.1 83.9 82.6 76.5 165.5

1600 73.2 76.7 78.6 79.0 79.1 79.8 79.1 79.2 81.7 80.9 80.3 73.9 164.9

2000 69.8 73.9 75.8 76.6 76.3 77.7 77.5 78.0 78.8 77.8 76.5 70.1 163.9

2500 64.6 70.3 72.5 72.8 72.9 74.9 74.4 74.2 75.9 73.5 71.5 64.7 162.9

3150 58.0 63.9 67.1 68.9 69.5 71.3 70.8 68.7 70.0 67.4 66.6 55.9 40.6 162.2

4000 49.8 57.6 60.0 61.8 62.4 64.6 63.6 61.8 63.9 60.1 57.5 43.6 22.9 162.3

5000 34.4 45.1 49.2 51.6 53.9 55.2 54.9 53.0 53.5 49.8 45.0 25.1 162.4

6300 11.2 26.1 33.1 36.3 38.6 41.5 40.3 36.4 38.7 34.6 27.9 165.0

8000 165.1 166.7 165.0

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MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9
NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NA53-22514

VEHICLE = ADH075 TEST DATE = 08-24-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 400. FPS

IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 85.00 PAMB HG = 29.75 RELHUM = 41.6 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR

FNINI = LBS XNL RPM XNHR = V8 RPM V8 = 2136.2 FPS AEB = 0. SQ IN CORR FAN SPEED = RPM

RUNPT = 8 00-9414 TAPE = X94141 TEST PT NO = 9414 NC = 862

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-9415 X9415C
BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | PWL |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 86.2 | 86.7 | 85.0 | 84.3 | 85.1 | 85.7 | 85.6 | 86.8 | 89.9 | 96.8 | 95.2 | 94.6 | 95.8 | 132.7 |
| 60 | 90.2 | 92.0 | 88.8 | 90.6 | 91.9 | 93.0 | 92.4 | 91.6 | 93.6 | 105.9 | 99.7 | 99.2 | 99.8 | 139.4 |
| 80 | 91.0 | 96.1 | 90.8 | 91.1 | 92.2 | 95.1 | 95.5 | 94.6 | 95.8 | 95.4 | 97.5 | 100.0 | 101.6 | 137.6 |
| 100 | 91.1 | 96.6 | 92.4 | 93.4 | 94.9 | 96.5 | 97.9 | 95.8 | 97.7 | 99.8 | 104.0 | 105.2 | 109.8 | 139.8 |
| 125 | 87.4 | 90.6 | 92.7 | 93.9 | 94.8 | 96.9 | 96.8 | 97.2 | 96.8 | 100.2 | 107.1 | 108.5 | 109.7 | 143.3 |
| 160 | 88.0 | 86.3 | 90.6 | 90.1 | 90.2 | 92.1 | 94.0 | 94.9 | 95.6 | 101.4 | 106.5 | 109.5 | 112.4 | 143.9 |
| 200 | 87.8 | 88.8 | 89.8 | 90.6 | 92.5 | 94.8 | 95.5 | 97.9 | 101.3 | 103.4 | 108.3 | 113.0 | 114.6 | 146.5 |
| 250 | 87.5 | 93.1 | 93.6 | 93.7 | 94.8 | 97.7 | 100.1 | 101.6 | 108.1 | 113.8 | 116.7 | 116.9 | 117.9 | 150.0 |
| 315 | 89.1 | 92.1 | 90.9 | 92.7 | 94.3 | 97.4 | 99.0 | 100.9 | 104.8 | 111.7 | 115.3 | 118.5 | 117.9 | 151.8 |
| 400 | 90.6 | 92.9 | 93.6 | 93.7 | 93.8 | 96.6 | 99.0 | 102.4 | 108.6 | 115.5 | 118.8 | 120.3 | 118.4 | 154.1 |
| 500 | 90.4 | 94.2 | 93.8 | 94.0 | 95.4 | 97.3 | 99.9 | 104.3 | 108.2 | 116.8 | 120.2 | 121.1 | 119.0 | 155.1 |
| 630 | 92.6 | 94.6 | 95.2 | 96.2 | 98.1 | 101.0 | 104.2 | 108.4 | 116.4 | 123.1 | 122.0 | 119.0 | 120.2 | 156.9 |
| 800 | 96.7 | 95.2 | 96.3 | 96.5 | 98.1 | 99.5 | 101.4 | 104.8 | 109.6 | 119.1 | 123.0 | 121.9 | 119.1 | 156.9 |
| 1000 | 102.5 | 103.5 | 101.0 | 100.3 | 100.2 | 101.0 | 103.2 | 105.8 | 110.6 | 119.1 | 123.5 | 122.7 | 119.6 | 157.4 |
| 1250 | 103.5 | 104.3 | 104.8 | 104.3 | 104.0 | 103.9 | 103.9 | 111.4 | 118.0 | 123.9 | 121.9 | 117.2 | 116.9 | 157.2 |
| 1600 | 108.8 | 106.8 | 106.3 | 104.4 | 102.7 | 103.0 | 105.3 | 107.5 | 111.3 | 118.0 | 123.9 | 120.2 | 116.2 | 156.9 |
| 2000 | 107.9 | 108.1 | 107.7 | 106.9 | 105.2 | 103.6 | 104.5 | 107.1 | 111.5 | 118.2 | 122.0 | 118.1 | 113.6 | 155.8 |
| 2500 | 105.4 | 106.7 | 106.2 | 107.3 | 107.0 | 106.0 | 108.0 | 111.2 | 117.3 | 120.7 | 116.7 | 112.0 | 104.9 | 154.9 |
| 3150 | 104.3 | 105.3 | 104.6 | 105.6 | 106.2 | 108.5 | 107.6 | 110.4 | 111.4 | 116.4 | 120.0 | 114.7 | 110.0 | 154.2 |
| 4000 | 103.7 | 104.0 | 103.8 | 104.5 | 104.1 | 106.1 | 108.2 | 109.8 | 111.1 | 114.7 | 117.7 | 113.4 | 108.6 | 152.9 |
| 5000 | 101.9 | 103.5 | 103.0 | 103.5 | 103.9 | 104.9 | 106.8 | 109.4 | 111.1 | 114.3 | 117.0 | 112.3 | 107.1 | 152.4 |
| 6300 | 101.0 | 103.0 | 102.9 | 103.4 | 103.3 | 105.3 | 108.3 | 108.8 | 110.3 | 112.6 | 116.0 | 111.0 | 107.1 | 151.7 |
| 8000 | 98.6 | 101.8 | 101.9 | 102.7 | 104.3 | 105.6 | 108.0 | 109.5 | 111.8 | 113.5 | 109.8 | 105.4 | 100.6 | 150.6 |
| 10000 | 97.9 | 99.3 | 100.4 | 101.9 | 102.1 | 103.9 | 104.2 | 106.3 | 108.7 | 110.6 | 113.3 | 108.3 | 104.6 | 150.3 |
| 12500 | 95.7 | 97.3 | 98.9 | 99.6 | 101.2 | 102.4 | 103.1 | 104.4 | 107.0 | 109.4 | 111.3 | 106.4 | 100.4 | 149.4 |
| 16000 | 92.8 | 95.7 | 96.1 | 96.7 | 97.8 | 100.1 | 100.9 | 103.0 | 104.5 | 106.7 | 108.5 | 104.6 | 100.4 | 148.4 |
| 20000 | 90.5 | 92.2 | 93.5 | 94.3 | 95.1 | 97.2 | 98.0 | 100.1 | 101.9 | 103.5 | 106.7 | 101.9 | 96.8 | 147.5 |
| 25000 | 86.0 | 89.1 | 89.8 | 90.7 | 92.3 | 94.9 | 95.9 | 96.3 | 99.4 | 100.7 | 102.2 | 98.9 | 92.2 | 146.6 |
| 31500 | 85.0 | 88.5 | 87.0 | 88.5 | 89.0 | 92.2 | 93.4 | 96.0 | 98.4 | 101.0 | 95.4 | 89.2 | 84.7 | 147.1 |
| 40000 | 76.6 | 80.8 | 82.0 | 82.6 | 85.3 | 87.1 | 88.5 | 90.4 | 94.2 | 95.4 | 99.5 | 93.5 | 85.7 | 148.7 |
| 50000 | 72.6 | 77.4 | 76.9 | 78.8 | 80.8 | 83.3 | 85.1 | 86.6 | 90.9 | 94.9 | 97.8 | 91.4 | 80.9 | 151.0 |
| 63000 | 69.6 | 76.3 | 74.8 | 76.4 | 80.0 | 81.8 | 83.3 | 83.3 | 91.3 | 93.1 | 97.0 | 89.5 | 77.9 | 155.2 |
| 80000 | 68.1 | 76.6 | 75.0 | 73.2 | 74.7 | 76.5 | 77.9 | 78.4 | 89.0 | 92.6 | 94.6 | 85.8 | 73.4 | 160.0 |
| QASPL | 115.1 | 115.8 | 115.3 | 115.4 | 115.5 | 116.5 | 117.4 | 119.6 | 122.6 | 128.8 | 132.9 | 131.4 | 128.9 | 168.5 |
| PNL | 127.6 | 128.6 | 128.7 | 128.8 | 130.8 | 130.9 | 132.8 | 135.3 | 140.6 | 145.0 | 141.5 | 138.1 | | |
| DBA | 115.8 | 116.2 | 115.7 | 115.7 | 115.5 | 116.3 | 117.1 | 119.3 | 122.3 | 128.5 | 132.7 | 130.4 | 127.2 | |

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICLE = ADH064 TEST DATE = 08-24-81 LOCAL = CAT ANECH CH CONFIG = 4 MODEL = 4
 WIND DIR = 5859 DEG WIND VEL = NO MPH EXT AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.68 RELHUM = 57.6 PCT
 FNIN1 = LBS XNL = RPM XNHR = RPM V8 = 2161.4 FPS AE18 = 25.3 SQ IN NBFR = 0. FPS

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-9415 X9415F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 66.2 66.7 65.0 64.3 65.1 65.7 65.6 66.8 66.9 96.8 95.2 94.6 95.8 132.7

63 90.2 92.0 88.8 90.6 91.9 93.0 92.4 91.6 93.6 105.9 99.7 99.8 139.4

80 91.0 96.6 92.4 93.4 94.2 94.9 96.5 97.9 95.8 97.7 99.8 104.0 105.2 139.8

100 91.1 96.6 92.4 93.4 94.2 94.9 96.5 97.9 95.8 97.7 99.8 104.0 105.2 139.8

125 67.4 90.6 92.7 93.9 94.8 96.9 96.8 97.2 96.8 100.2 107.1 108.5 109.7 143.3

160 68.0 86.3 90.6 90.1 90.2 92.1 94.0 94.9 95.6 101.4 106.5 112.4 143.9

200 67.8 88.8 89.8 90.6 92.5 94.8 95.5 97.9 101.3 103.4 108.3 113.0 114.6 146.5

250 67.5 93.1 93.6 93.7 94.8 97.7 100.1 101.6 108.1 113.8 116.7 116.9 150.0

315 69.1 92.1 90.9 92.7 94.3 97.4 99.0 100.9 104.8 111.7 115.3 118.5 151.8

400 90.6 92.9 93.7 93.8 96.6 99.0 102.4 108.6 115.5 118.8 120.3 118.4 154.1

500 90.4 94.2 93.8 94.0 95.4 97.3 99.9 103.3 108.2 116.8 120.2 121.1 155.1

630 92.6 94.6 94.6 95.2 96.2 98.1 101.0 104.2 108.4 118.4 123.1 122.0 156.9

800 96.7 95.2 96.3 96.5 98.1 99.5 101.4 104.8 109.6 119.1 123.0 121.9 156.9

1000 102.5 103.5 101.0 100.3 100.2 101.0 103.2 105.8 110.6 119.1 123.5 122.7 157.4

1250 103.5 104.3 103.8 104.2 104.0 103.9 107.3 111.4 118.4 123.5 127.9 117.7 157.2

1500 106.8 106.8 106.3 104.4 102.7 103.3 105.5 107.5 111.3 118.0 123.9 120.2 156.9

1600 108.8 106.8 106.3 104.4 102.7 103.3 105.5 107.5 111.3 118.0 123.9 120.2 156.9

2000 107.9 108.1 107.7 106.9 105.2 107.3 107.0 106.0 108.0 111.2 117.3 120.7 154.9

2500 105.4 106.7 106.2 107.3 107.0 106.0 108.0 111.2 117.3 120.7 116.7 112.0 154.9

3150 104.3 105.3 104.6 105.6 107.6 108.4 111.4 116.4 120.0 114.7 110.0 154.2

4000 103.7 104.0 103.8 104.5 104.1 106.1 108.2 109.8 114.7 117.7 113.4 108.6 152.9

4500 103.7 104.0 103.8 104.5 104.1 106.1 108.2 109.8 114.7 117.7 113.4 108.6 152.9

5000 101.9 103.5 103.5 103.9 103.9 104.9 106.8 109.4 111.1 114.3 117.0 112.3 152.4

6300 101.0 103.5 102.9 103.4 104.3 105.3 106.3 108.8 110.3 112.6 116.0 111.0 151.7

8000 98.6 101.0 101.8 101.9 102.7 104.3 105.6 108.0 109.5 111.8 113.5 109.8 150.6

10000 97.9 99.3 100.4 101.9 102.1 103.9 104.2 106.3 108.7 110.6 113.3 106.4 150.3

12500 95.7 97.3 98.9 99.6 101.2 102.4 103.1 104.4 107.0 109.0 111.3 106.4 149.4

15000 92.8 95.7 96.1 96.7 97.8 100.1 100.9 103.0 104.5 106.7 108.5 104.6 148.4

20000 90.5 92.2 93.5 94.3 95.1 97.2 98.0 100.1 101.9 103.5 106.7 101.9 147.5

25000 86.0 89.1 89.8 90.7 92.3 94.3 95.9 96.3 99.4 100.7 102.2 98.9 146.6

31500 80.5 85.0 85.8 86.7 87.0 88.5 90.8 92.2 93.4 96.0 98.4 101.0 147.1

40000 76.6 80.8 82.0 82.6 85.3 87.1 88.5 90.4 94.2 95.4 99.5 85.7 148.7

50000 72.6 77.4 76.9 78.8 80.8 83.3 85.1 86.6 89.0 92.6 94.6 85.8 150.0

63000 69.6 76.3 74.8 76.4 80.0 81.8 83.3 85.1 86.6 89.0 92.6 94.6 150.0

80000 68.1 76.6 75.0 73.2 74.7 76.5 77.9 78.4 83.3 85.1 86.6 89.0 150.0

GNL 115.1 115.8 115.3 115.4 115.5 116.5 117.4 119.6 122.6 128.8 132.9 131.4 128.9 168.5

PNL 127.6 128.6 128.2 128.7 128.8 130.3 130.9 132.8 135.3 140.6 144.3 141.5 138.1

DBA 186.8 197.1 195.5 194.2 195.8 197.6 199.1 199.9 209.7 213.2 215.4 206.8 194.7

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICLE = ADH064 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 MIKE HT = 29.68 RELHUM = 57.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC

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FININI = LBS XNL RPM XNHR = RPM V8 = 2161.4 FPS AE8 = 25.3 SQ IN
FNAMB = LBS XNL RPM XNHR = RPM V8 = 2161.4 FPS AE8 = 25.3 SQ IN
CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-9415 X94151

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 66.6 72.4 74.2 75.0 75.5 78.5 80.7 83.7 89.2 95.0 96.8 96.1 90.9 171.5

63 68.4 73.7 74.3 75.3 77.1 79.1 81.6 84.6 88.8 96.3 98.2 96.9 91.4 172.6

80 70.5 74.1 75.2 76.4 77.9 79.9 82.7 85.4 89.0 97.9 101.0 97.7 92.5 174.3

100 74.5 74.6 76.8 77.8 79.8 81.3 83.0 86.0 90.1 98.5 100.8 97.5 91.2 174.3

125 80.2 82.8 81.4 81.7 82.7 84.7 86.9 91.0 98.4 101.2 98.1 91.5 174.9

160 81.0 84.4 84.6 85.6 85.6 85.4 88.3 91.7 97.5 101.0 97.1 89.2 174.6

200 66.0 65.7 66.4 65.2 64.0 64.7 66.8 68.3 91.4 96.9 101.2 95.1 87.3 174.4

250 84.9 86.7 87.6 87.5 86.3 84.8 85.5 87.7 91.4 96.8 99.0 92.5 84.0 173.2

315 81.9 85.0 87.6 88.2 87.9 88.9 88.4 90.6 95.6 97.2 90.6 81.6 172.3

400 80.3 83.2 83.8 85.6 86.7 89.2 88.1 90.6 94.3 96.0 87.9 78.7 171.6

500 79.3 81.5 82.6 84.3 84.3 86.5 88.4 89.5 89.9 92.2 93.3 86.0 76.2 170.3

630 77.0 80.6 81.5 82.9 83.9 85.0 86.7 88.8 89.7 91.4 92.1 84.2 73.8 169.8

800 72.8 77.5 79.8 80.9 82.3 84.0 85.2 87.0 87.5 88.3 87.6 80.4 69.7 168.1

1000 72.8 77.5 79.8 80.9 82.3 84.0 85.2 87.0 87.5 88.3 87.6 80.4 69.7 168.1

1250 71.5 75.5 78.1 80.7 81.6 83.5 83.7 85.2 86.4 86.7 86.9 78.0 67.5 167.7

1600 68.4 72.9 76.1 80.3 81.8 82.3 82.9 84.3 84.5 84.8 84.0 74.8 63.0 166.8

2000 64.6 70.6 73.1 75.0 76.8 79.3 79.9 81.3 81.5 81.6 80.3 71.4 57.8 165.8

2500 60.5 65.9 69.6 71.9 73.6 75.8 76.5 77.7 77.9 77.2 76.7 65.8 49.4 165.0

3150 52.7 60.4 64.0 66.7 69.4 72.3 73.0 72.4 73.6 72.0 68.8 57.8 36.3 164.0

4000 40.9 51.6 56.2 59.7 62.5 65.3 66.3 66.2 66.4 65.0 61.4 45.4 18.9 164.5

5000 27.2 39.8 46.1 49.9 54.4 56.8 57.6 57.7 58.4 54.4 50.1 29.8 166.2

6300 5.4 22.2 29.0 35.4 39.8 43.0 44.1 43.1 43.0 39.7 30.6 3.6 168.5

8000 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6

10000 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6

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GASPL 91.7 93.9 94.6 95.4 95.8 96.8 97.6 99.3 101.9 107.4 109.9 106.0 99.6 185.7

PNL 95.7 98.6 100.0 101.2 102.1 103.8 104.2 105.6 107.3 110.8 112.7 106.6 98.6

PFLT 96.2 99.2 100.0 101.2 102.1 103.8 104.2 105.6 107.3 111.4 112.7 107.7 98.6

DBA 84.9 88.0 89.3 90.8 91.7 93.2 93.9 95.3 96.5 98.8 100.2 93.5 84.9

MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH064 TEST DATE = 08-24-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 0. FPS

IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.68 RELHUM = 57.6 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBRF =

FNINI = LBS XNL RPM XNHR = RPM XNH RPM V8 = 2161.4 FPS AEB = 25.3 SQ IN

FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2161.4 FPS AEB = 25.3 SQ IN

RUNPT = 81F-ZER-9415 TAPE = X94151 TEST PT NO = 9415 NC = 862 CORR FAN SPEED = RPM

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OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-9416 X9416C
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 86.9 87.5 83.7 82.5 82.4 85.2 85.1 87.3 89.4 100.8 95.9 95.1 98.5 134.8

63 89.0 89.3 89.5 87.3 88.2 91.5 90.7 91.1 92.8 110.1 100.0 98.9 98.8 141.9

80 91.3 96.1 90.8 91.1 92.0 94.6 95.0 94.6 95.5 95.2 97.3 99.2 102.6 137.5

100 91.8 96.1 91.4 92.7 93.0 93.9 95.7 96.9 94.5 95.7 98.6 103.3 105.4 139.1

125 88.4 90.6 91.7 92.9 93.5 95.9 95.8 95.7 95.0 98.0 105.1 107.5 108.7 141.9

160 87.0 83.3 88.6 88.4 88.0 89.8 91.5 92.1 93.1 98.9 104.8 108.0 111.1 142.3

200 86.8 86.6 87.3 87.1 88.7 91.8 92.5 95.6 98.8 100.7 106.0 111.0 113.4 144.7

250 84.8 88.3 88.3 89.6 90.2 92.3 94.7 97.4 98.6 105.2 110.8 114.0 114.9 147.4

315 85.1 88.1 87.4 88.4 90.0 93.6 95.5 98.2 102.0 108.7 113.1 116.5 114.7 149.3

400 87.6 88.6 89.4 89.7 90.5 93.4 96.3 100.4 106.1 113.2 116.6 117.8 114.2 151.5

500 87.5 90.0 91.3 92.4 94.3 97.4 100.8 105.7 114.3 118.2 117.9 111.3 152.2

630 88.8 90.9 91.1 91.7 93.3 95.4 98.3 101.7 110.3 106.4 115.6 120.2 116.9 153.5

800 88.8 93.0 92.8 92.8 94.4 96.0 98.4 101.3 106.4 115.6 120.2 116.9 105.6 153.1

1000 98.0 97.8 95.3 95.3 95.9 97.0 99.4 102.3 107.4 116.1 121.0 115.7 105.1 153.5

1250 104.5 105.8 100.6 99.1 99.2 99.8 100.7 104.3 108.2 115.6 121.3 114.7 104.2 153.7

1600 106.8 107.1 107.6 105.9 101.5 100.8 102.8 104.7 108.9 115.8 121.4 114.2 104.2 154.1

2000 103.7 105.6 106.2 106.9 106.2 102.8 102.2 104.6 109.0 116.4 119.5 112.9 103.6 153.2

2500 100.7 102.5 102.5 104.0 105.9 106.7 104.8 105.0 108.3 115.3 117.7 111.5 103.5 152.0

3150 101.0 101.6 101.6 102.5 102.3 105.3 105.3 105.5 107.3 109.1 112.7 114.7 108.7 150.0

4000 99.2 100.5 100.6 100.9 102.3 105.5 107.3 109.1 112.7 114.7 108.7 100.6 150.0

5000 99.2 100.5 99.8 100.7 101.4 103.1 107.1 108.9 112.8 113.6 107.1 99.7 149.5

6300 97.9 100.3 99.7 100.4 101.6 102.9 106.3 108.9 111.7 112.3 106.3 98.6 148.9

8000 96.0 98.6 98.9 99.3 99.0 101.1 102.4 104.6 107.4 110.5 104.9 97.5 148.0

10000 95.6 96.8 97.8 98.3 99.3 100.5 101.1 103.5 106.6 109.3 110.0 103.9 97.0 147.6

12500 93.9 95.4 96.1 96.4 97.9 99.4 100.1 101.1 104.1 106.8 108.3 101.9 95.2 146.4

16000 90.4 93.4 93.3 93.6 95.0 96.5 97.6 100.1 102.0 103.9 104.9 103.5 93.5 145.2

20000 87.5 89.5 89.9 91.4 92.2 94.5 95.6 96.7 99.2 101.2 102.3 97.9 91.3 144.3

25000 83.8 86.5 86.7 87.3 89.1 91.7 93.7 93.7 96.6 97.5 99.0 94.4 86.6 143.5

31500 78.5 82.7 82.5 83.3 85.0 88.1 89.0 90.5 92.4 94.7 96.1 89.9 82.2 143.1

40000 73.8 77.5 79.4 79.1 81.8 84.4 85.5 86.9 89.9 90.2 93.6 86.1 77.8 143.8

50000 69.6 73.9 73.6 74.4 77.5 80.7 81.1 81.6 85.8 89.3 91.7 82.1 71.8 145.4

63000 64.3 72.9 70.5 70.9 73.1 76.5 77.6 77.8 83.2 88.6 91.1 77.7 66.6 149.3

80000 61.9 74.0 70.1 70.1 73.1 76.8 73.5 72.1 78.6 88.1 87.7 71.3 58.5 153.7

GASPL 112.4 113.7 113.2 113.1 113.8 114.9 116.8 120.1 126.5 130.3 127.0 122.6 164.9

PWL 124.6 125.8 127.1 126.1 127.1 128.3 128.9 130.3 133.0 138.6 141.5 136.9 130.6

DBA 112.9 114.1 113.7 113.6 113.4 113.8 114.8 116.5 119.8 126.2 130.1 125.2 117.7

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICLE = ADH077 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4
IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 85.00 MIKE HT = 29.75 RELHUM = 41.6 PCT
WIND DIR = DEG WIND VEL. = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC

ORIGINAL PAGE 15
OF POOR QUALITY

FNINI = LBS XNLR = RPM XNH = RPM V8 = 2167.0 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2167.0 FPS AE18 = 0. SQ IN
CORR FAN SPEED = RPM

RUNPT = 81F-400-9416 TAPE = X9416C TEST PT NO = 9416 NC = 862 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-9416 X9416F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

PWL

200
160
125
100
80
63
50
40
FREQ

92.7 94.6 93.3 92.9 91.8 92.3 92.6 93.8 98.5 104.3 108.2 112.1 112.1 145.4
92.7 94.6 93.3 92.9 91.8 92.3 92.6 93.8 98.5 104.3 108.2 112.1 112.1 145.4
92.8 94.5 92.3 91.8 92.3 93.6 95.4 98.4 104.2 112.4 116.3 117.4 114.3 151.1
94.7 94.7 94.1 93.0 94.3 94.6 96.7 99.1 104.0 113.9 118.6 118.6 114.3 152.6
95.1 96.4 95.0 94.8 95.2 95.8 97.4 99.7 105.0 114.0 119.1 118.6 113.4 152.8
96.5 97.3 96.1 95.2 96.5 97.6 99.3 106.4 115.0 120.6 118.6 115.6 153.9
98.0 98.3 97.0 95.9 97.5 97.7 100.5 107.3 114.6 120.9 117.8 115.0 153.8
100.6 98.0 98.3 97.0 95.9 97.5 97.7 100.5 107.3 114.6 120.9 117.8 115.0 153.8
104.6 103.1 99.3 98.1 101.1 99.6 100.1 101.6 108.1 114.9 121.2 117.5 115.0 154.1
112.0 105.6 102.4 103.4 101.8 102.5 103.1 108.6 115.9 119.7 116.5 114.8 154.1
113.7 112.8 109.0 108.4 104.1 102.1 103.3 108.4 115.4 118.6 115.9 114.4 154.5
108.7 110.1 110.0 109.9 108.8 108.3 105.1 104.2 109.8 114.8 118.2 115.2 153.9
106.3 109.1 107.9 108.2 105.7 107.3 107.9 105.7 110.3 113.7 116.4 113.8 152.7
108.3 108.0 106.5 104.5 104.6 104.5 104.6 107.5 110.1 112.7 113.8 111.3 151.2
105.5 106.5 105.1 104.3 104.4 104.6 104.4 106.6 108.8 111.6 112.4 110.1 150.5
104.8 106.7 105.3 104.6 103.1 104.1 104.0 104.9 108.2 110.7 112.0 109.4 150.3
103.1 105.0 104.4 103.8 103.3 103.5 102.7 103.8 106.1 108.6 110.7 107.8 149.5
102.4 102.9 103.0 102.6 102.4 101.7 101.5 104.8 106.6 108.3 107.3 107.5 148.7
100.2 101.0 100.8 100.1 99.0 99.5 99.3 100.7 102.7 104.5 106.3 105.2 105.9 148.0
96.4 98.5 97.6 97.0 96.2 97.5 97.4 100.3 101.0 103.3 102.0 101.6 146.7
92.9 94.1 93.6 94.1 93.1 94.7 95.5 96.5 98.6 100.6 97.9 97.6 145.9
94.1 93.6 89.6 89.2 89.6 91.1 90.5 90.7 94.7 94.7 96.5 93.8 145.8
85.0 87.9 86.3 85.5 86.4 87.4 87.0 87.1 90.8 93.7 96.5 89.9 146.8
79.9 82.3 81.0 82.1 83.7 82.5 81.6 89.1 94.1 96.8 86.5 82.3 149.9
74.7 77.8 76.0 75.3 79.5 79.0 77.8 86.0 95.0 94.9 81.6 75.7 153.9
67.9 75.3 71.4 70.3 72.6 76.1 74.9 72.0 76.2 85.2 85.1 71.8 151.7
119.1 119.3 117.8 116.7 116.0 115.7 115.5 116.2 120.3 125.8 129.9 128.1 126.0 165.7
119.1 119.3 117.8 116.7 116.0 115.7 115.5 116.2 120.3 125.8 129.9 128.1 126.0 165.7
131.5 131.4 130.2 129.6 128.8 128.5 128.8 129.1 132.9 137.5 140.9 138.5 137.3
132.6 131.4 131.6 129.6 128.8 128.5 128.8 129.1 132.9 137.5 140.9 138.5 137.3
190.2 196.3 193.1 192.0 194.2 197.2 196.2 193.8 199.6 208.3 208.4 195.5 190.0
DBA

ORIGINAL PAGE IS
OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH077 TEST DATE = 08-24-81
IAPLHA = SB59 IEQA = NO
WIND DIR = DEG WIND VEL = MPH
EXT DIST = 40.0 FT
PWL AREA = FULL SPHERE
TAMB F = 85.00
MODEL = 4
FLVEL = 400. FPS
RELHUM = 41.6 PCT
NBFR =
PAMB HG = 29.75
MIKE HT =
AE8 = 25.3 SQ IN
FPS = 2167.0 FPS
V6 =
RPM =
XNH =
XNHR =
RPM =
LBS XNL =
LBS XNLR =
FNRAMB =
FNINI =
= X9416F
TEST PT NO = 9416
NC = 862
CORR FAN SPEED = RPM

ANGLES MEASURED FROM INLET, DEGREES

**ORIGINAL PAGE IS
OF POOR QUALITY**

MODEL AREA = 163.1 SQ CM (25.3 SQ IN)
SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)
DIAMETER RATIO = 7.442
FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------|---|--------|-----------|---|----------|----------|---|--------------|--------|---|---|----------|---|-----------|------------|---|-------|---------|---|----------|----------|--------|---|---|------|---|--|
| VEHICLE | = | ADH077 | TEST DATE | = | 08-24-01 | LOCAT | = | C41 ANECH CH | CONFIG | = | 4 | MODEL | = | 4 | PAMB HG | = | 29.75 | RELHUM | = | 41.6 PCT | 400. FPS | FLTVEL | = | 4 | NBFR | = | |
| WIND DIR | = | | DEG | | | WIND VEL | = | | MPH | | | EXT DIST | = | 2400.0 FT | EXT CONFIG | = | SL | MIKE HT | = | | | | | | | | |
| WIND DIR | = | | DEG | | | WIND VEL | = | | MPH | | | EXT DIST | = | 2400.0 FT | EXT CONFIG | = | SL | MIKE HT | = | | | | | | | | |
| WIND DIR | = | | DEG | | | WIND VEL | = | | MPH | | | EXT DIST | = | 2400.0 FT | EXT CONFIG | = | SL | MIKE HT | = | | | | | | | | |
| WIND DIR | = | | DEG | | | WIND VEL | = | | MPH | | | EXT DIST | = | 2400.0 FT | EXT CONFIG | = | SL | MIKE HT | = | | | | | | | | |
| WIND DIR | = | | DEG | | | WIND VEL | = | | MPH | | | EXT DIST | = | 2400.0 FT | EXT CONFIG | = | SL | MIKE HT | = | | | | | | | | |
| WIND DIR | = | | DEG | | | WIND VEL | = | | MPH | | | EXT DIST | = | 2400.0 FT | EXT CONFIG | = | SL | MIKE HT | = | | | | | | | | |
| WIND DIR | = | | DEG | | | WIND VEL | = | | MPH | | | EXT DIST | = | 2400.0 FT | EXT CONFIG | = | SL | MIKE HT | = | | | | | | | | |
| WIND DIR | = | | DEG | | | WIND VEL | = | | MPH | | | EXT DIST | = | 2400.0 FT | EXT CONFIG | = | SL | MIKE HT | = | | | | | | | | |
| WIND DIR | = | | DEG | | | WIND VEL | = | | MPH | | | EXT DIST | = | 2400.0 FT | EXT CONFIG | = | SL | MIKE HT | = | | | | | | | | |
| WIND DIR | = | | DEG | | | WIND VEL | = | | MPH | | | EXT DIST | = | 2400.0 FT | EXT CONFIG | = | SL | MIKE HT | = | | | | | | | | |
| WIND DIR | = | | DEG | | | WIND VEL | = | | MPH | | | EXT DIST | = | 2400.0 FT | EXT CONFIG | = | SL | MIKE HT | = | | | | | | | | |
| WIND DIR | = | | DEG | | | WIND VEL | = | | MPH | | | EXT DIST | = | 2400.0 FT | EXT CONFIG | = | SL | MIKE HT | = | | | | | | | | |
| WIND DIR | = | | DEG | | | WIND VEL | = | | MPH | | | EXT DIST | = | 2400.0 FT | EXT CONFIG | = | SL | MIKE HT | = | | | | | | | | |
| WIND DIR | = | | DEG | | | WIND VEL | = | | MPH | | | EXT DIST | = | 2400.0 FT | EXT CONFIG | = | SL | MIKE HT | = | | | | | | | | |
| WIND DIR | = | | DEG | | | WIND VEL | = | | MPH | | | EXT DIST | = | 2400.0 FT | EXT CONFIG | = | SL | MIKE HT | = | | | | | | | | |
| WIND DIR | = | | DEG | | | WIND VEL | = | | MPH | | | EXT DIST | = | 2400.0 FT | EXT CONFIG | = | SL | MIKE HT | = | | | | | | | | |
| WIND DIR | = | | DEG | | | WIND VEL | = | | MPH | | | EXT DIST | = | 2400.0 FT | EXT CONFIG | = | SL | MIKE HT | = | | | | | | | | |
| WIND DIR | = | | DEG | | | WIND VEL | = | | MPH | | | EXT DIST | = | 2400.0 FT | EXT CONFIG | = | SL | MIKE HT | = | | | | | | | | |
| WIND DIR | = | | DEG | | | WIND VEL | = | | MPH | | | EXT DIST | = | 2400.0 FT | EXT CONFIG | = | SL | MIKE HT | = | | | | | | | | |
| WIND DIR | = | | DEG | | | WIND VEL | = | | MPH | | | EXT DIST | = | 2400.0 FT | EXT CONFIG | = | SL | MIKE HT | = | | | | | | | | |
| WIND DIR | = | | DEG | | | WIND VEL | = | | MPH | | | EXT DIST | = | 2400.0 FT | EXT CONFIG | = | SL | MIKE HT | = | | | | | | | | |

| | | | | | | | | | | | | | | |
|--------|---|-----|------|-----|------|-----|-----|---|--------|-----|------|---|------|-------|
| FNIN1 | = | LBS | XNL | RPM | XNH | RPM | V8 | = | 2167.0 | FPS | AE8 | = | 25.3 | SO IN |
| FNRAMB | = | LBS | XNLR | RPM | XNHR | RPM | V18 | = | | FPS | AE18 | = | 0. | SO IN |

RUNPT = 81
 0-9416 TAPE = X94161
 TEST PT NO = 9416
 NC = 862
 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-9421 X9421C
BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 86.7 87.2 85.2 85.3 84.6 85.5 85.9 87.5 90.7 99.1 95.4 94.9 96.3 133.8

63 89.7 92.3 89.0 91.3 90.9 92.3 91.4 92.1 94.1 106.1 99.5 98.2 99.8 139.4

80 91.3 96.1 90.6 91.4 92.5 95.1 95.2 94.6 95.8 95.9 98.0 100.0 101.6 137.7

100 91.6 96.6 92.1 93.4 93.7 95.4 96.2 97.9 96.0 98.2 99.8 104.0 105.2 139.9

125 87.9 90.9 92.9 94.2 94.8 96.9 97.0 97.2 96.8 100.0 106.9 110.2 143.5

160 88.8 87.1 90.6 90.6 90.2 92.1 94.5 95.1 96.1 101.4 107.0 110.2 144.4

200 88.5 89.1 90.1 91.1 93.0 95.1 95.7 97.9 101.5 104.2 109.0 113.5 147.1

250 88.0 89.6 90.6 91.6 93.4 94.0 95.1 96.2 100.4 101.8 108.9 114.3 147.6

315 89.6 92.9 91.6 92.9 94.5 97.6 99.0 101.4 104.8 104.8 112.2 115.8 148.4

400 90.6 93.4 94.1 93.9 94.3 96.9 99.5 103.2 108.9 116.7 119.6 120.8 154.7

500 92.5 96.2 96.3 96.8 97.9 99.8 101.6 105.3 110.4 119.6 123.5 122.1 157.3

630 102.3 101.3 101.2 102.0 103.9 106.6 111.3 120.1 123.7 123.4 120.1 158.0

800 106.2 106.8 104.5 104.3 104.0 104.7 107.1 111.7 119.9 123.7 122.2 157.6

1000 104.2 104.0 102.3 101.3 101.2 102.0 103.9 106.6 111.3 120.1 123.4 120.1 158.0

1250 106.2 106.8 104.5 104.3 104.0 104.7 107.1 111.7 119.9 123.7 122.2 157.6

1600 106.8 106.8 104.5 104.3 104.0 104.7 107.1 111.7 119.9 123.7 122.2 157.6

2000 108.9 109.6 109.7 109.4 108.0 105.6 105.5 107.9 112.3 119.9 121.8 118.1 156.4

2500 106.7 107.7 107.2 108.3 108.8 109.5 107.5 108.5 112.0 117.9 120.2 111.7 155.6

3150 106.0 106.8 106.1 106.6 107.2 109.8 109.6 112.4 117.9 120.0 114.9 110.0 154.9

4000 104.2 105.2 105.8 106.3 105.6 107.6 110.0 110.8 112.3 116.5 117.5 113.9 153.7

5000 102.9 104.5 104.7 105.0 105.7 106.6 108.0 110.4 111.6 115.5 116.8 112.1 153.0

6300 102.3 104.2 104.7 105.8 106.6 107.6 108.0 110.4 111.6 115.5 116.8 112.1 153.0

8000 68.6 76.9 75.5 75.7 76.7 79.3 81.2 82.4 91.2 94.6 94.6 85.8 72.4 161.2

QASPL 116.6 117.1 116.9 116.9 116.9 117.9 118.7 120.4 123.5 130.1 133.0 131.8 129.0 169.2

PWL 129.8 130.3 129.5 129.9 130.2 132.1 132.2 133.6 136.2 142.2 144.9 141.9 137.9

DBA 117.3 117.5 117.3 117.2 117.0 117.8 118.5 120.1 123.2 129.9 132.8 130.8 127.1

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH063 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 MIKE HT = 29.68 RELHUM = 57.6 PCT
WIND DIR = DEG WIND VEL. = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC NBFR =

FNINI = LBS XNL = RPM XNHR = RPM V8 = 2214.3 FPS AEB = 25.3 SO IN CORR FAN SPEED = RPM
FNRAMB = LBS XNL = RPM XNHR = RPM V8 = 2214.3 FPS AEB = 25.3 SO IN CORR FAN SPEED = RPM

ORIGINAL PAGE 13
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-9421 X9421F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

FREQ 50 60 70 80 90 100 110 120 130 140 150 160

50 66.7 67.2 65.2 65.3 64.6 65.5 65.9 67.5 90.7 99.1 95.4 94.9 96.3 133.8

63 69.7 92.3 89.0 91.3 90.9 92.3 91.4 92.1 94.1 106.1 99.5 98.2 99.8 139.4

80 91.3 96.1 90.6 91.4 92.5 95.1 95.2 97.9 98.8 95.8 98.0 100.0 101.6 137.7

100 91.6 96.8 92.1 93.4 93.7 95.1 96.2 97.9 96.0 98.2 99.8 104.0 105.2 139.9

125 67.9 90.9 92.9 94.2 94.8 96.9 97.0 97.2 96.8 100.0 106.9 109.0 110.2 143.5

150 68.8 87.1 90.6 90.6 90.2 92.1 94.5 95.1 96.1 101.4 107.0 112.9 144.4

200 68.5 89.1 90.1 93.0 95.1 97.9 97.9 101.5 104.2 109.0 113.5 115.4 147.1

250 88.0 93.6 93.1 93.4 94.0 95.1 98.2 100.4 101.8 108.9 114.3 117.5 150.7

315 89.6 92.9 91.6 92.9 94.5 97.6 99.0 101.4 104.8 112.2 115.8 118.4 152.2

400 90.6 93.4 94.1 93.9 94.3 96.9 99.5 103.2 108.9 116.7 119.6 120.8 154.7

500 91.7 94.2 95.0 95.9 96.0 99.9 103.5 108.7 117.6 121.5 121.6 118.8 155.8

630 92.8 95.1 95.4 95.7 96.7 99.1 101.2 104.9 108.4 119.4 123.3 122.5 157.3

800 97.5 96.2 96.3 96.8 97.9 99.8 101.6 105.3 110.4 119.6 123.5 122.1 157.3

1000 104.2 102.3 101.3 102.0 102.0 103.9 106.6 111.3 120.1 123.7 123.4 120.1 158.0

1250 106.2 106.8 104.5 104.3 104.4 104.7 107.1 111.7 119.9 123.7 122.2 117.2 157.6

1500 110.8 108.8 108.8 107.1 104.2 103.8 106.3 108.2 112.3 119.5 123.6 120.4 157.3

2000 108.9 109.6 109.7 109.4 108.0 105.5 105.5 107.9 112.3 119.9 121.8 118.1 156.4

2500 106.7 107.7 107.2 108.3 108.8 109.5 107.5 108.5 112.0 119.3 120.2 117.2 155.6

3150 106.0 106.8 106.1 106.6 107.2 109.8 109.6 109.4 112.4 117.9 120.0 114.9 154.9

4000 104.2 105.2 105.8 106.3 105.6 107.6 110.0 110.8 112.3 116.5 117.5 113.9 153.7

5000 102.9 104.5 105.0 105.7 106.6 107.8 110.0 112.0 114.6 115.5 111.2 106.3 152.6

6300 102.3 104.2 104.7 105.8 106.6 107.8 110.0 112.0 114.6 115.5 111.2 106.3 152.6

8000 100.6 102.5 103.3 103.7 103.9 106.0 106.8 108.5 111.0 113.6 113.2 110.1 151.6

10000 98.9 100.6 101.9 102.6 103.9 105.9 108.1 109.9 112.6 112.8 109.0 104.9 151.3

12500 97.4 99.4 100.6 101.9 104.2 104.6 105.6 108.0 110.5 110.8 106.9 102.2 150.2

15000 94.1 96.9 98.5 99.3 101.3 102.4 104.2 105.5 108.2 108.3 104.4 99.6 149.2

20000 91.5 93.7 95.3 95.6 96.9 98.7 99.8 101.3 103.4 105.5 106.2 102.1 148.5

25000 87.5 91.7 94.3 96.7 97.7 98.1 100.9 102.2 98.6 92.4 147.9

31500 82.8 87.0 87.6 88.5 90.2 93.1 94.0 95.4 97.7 101.2 100.5 95.7 148.4

40000 78.3 82.8 84.5 84.6 87.0 89.6 90.0 92.4 96.0 96.6 99.3 94.5 150.2

50000 74.9 79.4 80.4 80.8 82.5 86.3 86.3 88.3 93.7 97.4 97.3 91.2 152.3

63000 70.3 76.8 78.1 78.2 79.9 82.5 83.8 86.1 93.6 95.6 97.5 88.8 156.6

80000 66.6 76.9 76.9 75.5 75.7 76.7 79.3 81.2 82.4 91.2 94.6 94.6 161.2

OASPL 116.6 117.1 116.9 116.9 116.9 117.9 118.7 120.4 123.5 130.1 133.0 131.8 129.0 169.2

PNLT 129.8 129.5 129.9 130.2 132.1 132.2 133.6 136.2 142.2 144.3 141.9 137.9

DBA 189.4 197.4 196.4 196.6 197.7 200.3 202.1 203.5 212.0 215.2 215.4 206.7 194.3

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH063 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH C0NF1G = 4 MODEL = 4 FLTVEL = 0. FPS
 IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.66 RELHUM = 57.6 PCT
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT C0NF1G = ARC MIKE HT = 25.3 SQ IN
 FNNI1 = LBS XNLR RPM XNH XNHR = RPM V8 = 2214.3 FPS AE8 = 0. SQ IN
 FNRAMB = LBS XNLR RPM XNH XNHR = RPM V8 = 2214.3 FPS AE8 = 0. SQ IN
 RUNPT = ZER-9421 TAPE = X9421F TEST PT NO = 9421 NC = 862 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-9421 X94211

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 66.6 72.9 74.7 75.2 76.0 78.7 81.2 84.5 89.5 96.2 97.6 96.6 91.1 172.2

63 69.7 73.7 74.8 76.3 77.6 79.8 81.6 84.8 89.3 97.1 99.4 97.4 91.2 173.3

80 70.7 74.6 75.9 76.4 80.9 82.9 86.2 89.0 98.9 98.9 101.2 98.2 92.5 174.7

100 75.3 76.6 76.8 78.0 79.5 81.5 83.3 86.5 90.9 99.0 101.3 97.7 91.2 174.7

125 81.9 83.3 82.7 82.4 82.7 83.7 85.5 87.7 91.7 99.4 101.4 96.8 92.0 175.5

160 83.8 85.9 84.8 85.3 85.9 86.1 88.1 92.0 99.0 101.3 97.4 88.7 175.0

200 88.0 87.7 88.9 88.0 85.5 85.2 87.6 89.1 92.4 98.4 100.9 95.3 86.3 174.7

250 85.9 88.2 89.6 89.0 89.0 86.8 86.5 88.5 92.1 98.6 98.7 92.5 83.3 173.8

315 83.2 86.0 86.8 86.6 89.7 90.4 88.4 88.9 91.5 97.6 96.7 91.1 81.4 173.0

400 82.0 84.7 85.3 86.6 87.7 90.4 90.1 89.4 91.6 95.8 96.0 88.2 78.7 172.4

500 79.8 82.8 84.6 86.0 85.8 88.0 90.2 90.5 91.2 94.0 93.0 86.5 76.2 171.2

630 78.0 81.6 83.3 84.4 85.6 86.8 88.0 89.8 90.2 92.7 91.8 84.0 73.8 170.4

800 76.9 81.0 82.4 83.6 85.6 86.4 87.5 89.2 90.3 91.4 90.0 82.4 71.8 170.0

1000 74.8 79.0 81.3 82.7 83.5 85.8 86.4 87.5 89.0 90.1 87.4 80.6 69.4 169.0

1250 72.5 76.7 79.6 81.5 83.3 85.5 86.9 87.7 88.7 89.7 86.4 78.7 67.7 168.8

1600 70.2 74.6 77.7 79.1 81.1 83.5 84.8 85.4 86.0 83.5 75.3 62.7 57.1 167.6

2000 65.8 71.8 74.9 76.8 78.3 80.5 81.4 82.5 82.5 83.1 80.1 57.1 52.1 166.7

2500 61.5 67.4 71.4 73.2 75.3 77.3 78.2 78.9 79.4 79.2 76.2 66.0 49.9 165.9

3150 54.2 62.4 65.8 67.7 71.4 74.0 74.7 74.1 75.1 74.2 68.8 57.6 36.6 165.4

4000 43.2 53.6 57.9 61.2 64.3 67.6 68.0 68.2 68.1 67.7 60.9 45.7 18.6 165.9

5000 29.0 41.8 48.6 51.9 56.1 59.3 59.1 59.7 60.1 57.6 49.9 30.8 167.6

6300 6300 7.7 24.2 32.5 37.4 41.5 46.0 45.6 44.9 45.8 42.2 30.1 3.4 174.1

8000 8000 8.8 15.5 20.8 24.5 24.7 23.4 24.3 15.6 178.7

GASPL 93.3 95.2 96.2 96.9 97.2 98.3 98.8 100.1 102.7 108.7 110.1 106.4 99.5 186.4

PWL 97.3 100.0 101.6 102.6 103.6 105.2 106.6 108.3 112.4 112.6 107.0 98.7

DBA 86.2 89.2 90.9 92.2 93.2 94.8 95.3 96.4 97.6 100.5 100.0 93.8 84.6

MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH063 TEST DATE = 08-24-81 LOCAL = C41 ANECH CH CONFIO = 4 MODEL = 4 FLTVEL = 0. FPS
IAPLHA = SB59 IECA = NO EXT DIST = 2400.0 FT TAMB F = 80.00 PAMB HG = 29.68 RELHUM = 57.6 PCT
WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIO = SL MIKE HT = NBFR

FNINI = LBS XNL RPM XNH RPM V8 = 2214.3 FPS AEB = 25.3 SQ IN
FNRAMB = LBS XNLR RPM XNHR RPM V18 = 2214.3 FPS AEB = 25.3 SQ IN

TEST PT NO = 9421 NC = 862 CORR FAN SPEED = RPM
RUNPT = 81F-ZER-9421 TAPE = X94211

ORIGINAL PAGE IS
OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

ANGLES MEASURED FROM INLET, DEGREES

IDENTIFICATION - MODEL
81F-400-9422 X9422C
BACKGROUND 81F-400-0400 X04000

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

63 89.5 89.8 87.3 88.9 82.9 85.7 85.6 87.5 90.2 96.8 96.2 95.4 98.8 133.5

100 92.3 96.3 91.6 91.9 92.7 95.3 95.3 94.6 96.3 95.7 98.0 100.2 102.9 138.1

125 88.6 91.4 91.9 93.4 94.5 96.4 96.3 96.2 95.8 99.0 105.9 108.3 110.0 142.8

160 87.0 84.6 88.9 88.5 90.6 90.6 92.0 92.0 93.8 99.7 105.8 108.7 111.9 143.1

200 86.8 86.8 87.1 87.6 88.7 91.8 93.0 95.9 99.3 101.7 106.3 111.5 113.6 145.0

250 85.3 89.1 88.8 90.4 90.2 92.3 95.0 97.6 99.8 106.2 112.0 115.2 115.1 148.3

315 85.6 88.4 88.1 88.7 90.3 93.9 96.0 98.4 103.0 110.0 113.8 117.3 115.7 150.1

400 87.8 89.1 89.9 90.2 90.8 94.4 96.8 100.2 106.4 113.7 117.1 118.8 114.2 152.1

500 87.5 90.2 90.5 92.0 92.6 94.5 97.6 101.3 106.2 114.8 119.0 118.6 112.1 152.8

630 88.8 91.1 92.1 91.9 93.0 95.1 98.8 102.2 106.4 116.2 121.1 118.3 109.4 153.9

800 94.2 95.2 96.3 96.8 94.3 96.5 98.6 102.6 106.1 121.2 116.9 106.1 153.8

1000 100.5 99.3 96.3 96.6 96.7 97.5 99.7 103.3 108.4 116.6 121.2 115.2 105.6 153.7

1250 106.7 108.0 103.3 100.6 99.9 99.5 100.9 103.8 108.7 116.4 122.0 114.4 104.9 154.4

1600 108.3 108.6 109.6 108.4 104.0 101.6 103.3 104.7 109.4 116.0 122.1 114.5 105.0 154.8

2000 104.4 106.6 107.0 108.6 108.2 105.8 102.7 105.4 109.8 116.2 120.3 113.1 104.4 153.9

2500 102.7 103.2 103.5 105.3 106.4 108.2 107.1 106.0 109.3 115.8 118.4 112.0 103.8 152.8

3150 102.3 103.3 101.8 102.6 102.7 106.0 108.4 107.4 109.7 114.6 118.0 110.7 102.6 152.2

4000 101.5 102.6 101.6 102.6 101.6 106.0 108.6 108.6 108.6 113.5 115.5 108.7 101.1 150.8

5000 100.4 101.8 101.0 101.5 102.0 102.4 104.3 107.9 109.9 113.3 114.1 107.4 100.2 150.2

6300 99.9 101.3 101.0 101.7 102.6 103.9 107.1 109.4 111.5 113.3 106.8 98.9 149.5

8000 97.7 99.9 100.4 100.5 102.1 103.2 105.9 108.6 110.5 111.3 104.2 97.5 148.7

10000 96.6 98.6 99.8 99.8 100.8 102.1 104.7 107.9 109.3 110.0 104.2 97.5 148.2

12500 94.7 96.4 97.4 97.6 98.7 100.4 101.4 102.6 105.3 107.8 108.3 102.7 95.7 147.3

16000 91.7 94.4 94.8 95.1 96.2 97.2 99.1 101.6 102.7 104.9 105.4 100.3 93.7 146.1

20000 88.8 91.0 92.4 92.4 93.4 95.6 96.8 98.2 100.7 101.7 103.6 97.6 91.1 145.3

25000 85.0 88.0 88.2 88.3 89.3 90.8 93.2 94.4 97.8 99.5 99.8 95.1 87.1 144.7

31500 79.5 83.9 84.0 84.3 86.7 89.1 90.7 92.0 94.1 96.5 97.4 90.7 82.9 144.6

40000 75.0 79.5 80.4 80.9 82.8 85.6 86.8 88.2 91.9 92.0 95.1 86.9 78.3 145.3

50000 70.6 75.1 75.6 75.9 78.0 81.5 82.3 83.4 87.9 90.0 93.4 82.1 72.3 146.8

63000 65.3 73.1 72.0 72.7 74.1 77.5 78.6 79.1 86.4 88.7 91.8 78.0 67.1 150.2

80000 61.7 74.6 74.6 75.0 76.8 80.0 82.8 84.3 86.7 89.2 92.4 89.2 72.4 154.4

CASPL 114.0 115.2 114.6 114.9 114.3 115.0 115.9 117.8 120.9 126.9 131.0 127.4 123.1 165.6

PWL 126.0 127.0 127.6 128.5 129.4 129.9 131.3 133.6 139.0 142.3 137.2 131.1

DBA 114.5 115.6 115.1 115.3 114.6 115.1 115.8 117.5 120.6 126.6 130.8 125.4 118.2

NASA SHOCK CELL/ANNUAL C-D PLUG NO2. SC-4/NAS3-22514

VEHICLE = ADH078 TEST DATE = 08-24-81
IAPLHA = SB59 LEGA = NO
WIND DIR = DEG WIND VEL = MPH
LOCAL = C41 ANECH CH CONF10 = 4
MODEL = 4
FLTVEL = 400. FPS
RELHUM = 41.7 PCT
NBFR =

FNINI = LBS XNL RPM XNHR =
FNRAMB = LBS XNLR RPM XNHR =
TEST PT NO = 9422 NC = 862 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-9422 X9422F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

250 92.6 95.1 93.5 91.8 92.3 93.1 94.0 99.5 105.6 108.9 112.8 113.1 146.2
315 92.6 95.1 93.5 92.1 94.1 94.7 95.6 104.1 110.6 113.6 116.1 114.0 149.5
400 93.3 94.8 93.1 92.1 92.6 94.6 96.0 98.2 104.7 112.8 117.0 115.0 151.7
500 95.4 95.4 94.8 93.6 94.5 94.8 96.9 99.6 104.7 114.1 119.2 118.6 152.9
630 95.1 96.6 95.5 94.9 95.5 97.0 97.8 100.1 106.1 114.3 120.0 118.5 153.3
800 96.2 97.3 97.0 95.3 98.5 97.8 100.2 107.4 115.5 120.8 118.2 116.0 154.0
1000 99.5 99.8 98.5 97.0 98.3 98.2 99.0 101.4 107.7 115.2 121.5 117.4 154.2
1250 107.5 105.1 100.7 99.5 101.9 100.3 100.3 102.0 108.6 115.1 121.9 117.8 154.7
1500 114.2 114.3 106.2 104.0 106.6 103.0 103.0 104.1 109.4 115.7 120.8 115.6 155.0
2000 118.5 117.3 116.2 113.0 110.7 102.7 104.1 109.4 115.8 119.2 116.3 115.5 156.6
2500 110.5 112.0 111.6 112.2 109.3 109.8 107.4 105.2 110.2 115.0 119.2 115.4 154.8
3150 110.3 109.8 108.9 105.8 108.0 109.1 106.9 110.7 114.4 117.0 113.6 153.4
4000 108.7 109.2 106.9 106.7 105.0 105.7 107.3 108.9 111.0 114.2 115.5 112.2 152.6
5000 107.1 107.6 106.6 105.9 105.4 105.9 108.1 110.6 112.4 114.8 111.8 111.4 151.8
6300 106.7 107.7 106.3 106.1 105.6 105.6 105.4 107.3 110.0 111.6 113.1 110.4 151.3
8000 106.5 106.5 106.4 106.3 104.8 105.1 104.8 106.2 109.5 110.7 112.1 109.7 151.1
10000 104.9 106.3 105.9 105.1 104.1 104.8 103.7 105.1 107.3 109.5 110.7 108.7 149.5
12500 103.4 104.4 104.0 104.1 102.7 103.4 102.9 103.0 105.4 107.4 108.7 106.9 148.7
15000 101.0 102.0 102.1 101.4 100.3 100.2 100.8 102.2 103.7 104.5 107.1 104.6 148.7
20000 97.6 99.5 99.1 98.5 97.5 98.5 98.6 101.3 102.7 103.7 102.5 101.9 147.7
25000 94.1 95.6 95.9 95.1 94.9 96.2 96.0 95.0 96.1 100.2 101.6 98.3 147.1
31500 89.6 91.8 91.1 90.2 91.3 92.1 92.2 92.1 96.6 96.3 99.9 94.9 147.1
40000 86.0 89.2 87.8 86.5 87.4 88.6 88.2 88.3 92.8 94.5 98.2 89.9 148.2
50000 81.1 84.3 83.8 82.7 82.6 84.5 83.8 83.4 92.3 94.1 97.6 86.7 150.9
63000 75.7 79.0 78.0 76.8 78.7 80.5 80.0 79.1 88.0 94.7 96.5 82.6 154.7
80000 68.9 75.6 72.9 72.1 74.0 77.2 75.7 73.3 78.2 84.9 86.6 72.8 152.5

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH078 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CNF10 = 4 MODEL = 4 FLTVL = 400. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 85.00 PAMB HG = 29.71 RELHUM = 41.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNF10 = ARC MIKE HT = NBRF =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2201.0 FPS AE8 = 25.3 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2201.0 FPS AE8 = 25.3 SQ IN

RUNPT = 81F-400-9422 TAPE = X9422F TEST PT NO = 9422 NC = 862 CORR FAN SPEED = RPM

DATPROC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-94221 X94221

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 63 80 100 125 160 200 250 315 400 500 630 800 1000 1250 1600 2000 2500 3150 4000 5000 6300 8000

| | | | | | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL |
| 71.3 | 74.3 | 78.7 | 73.4 | 74.3 | 76.5 | 77.7 | 79.6 | 85.3 | 92.4 | 95.0 | 93.9 | 87.4 | 169.1 |
| 73.4 | 74.9 | 75.4 | 74.9 | 76.2 | 76.7 | 78.6 | 80.9 | 85.3 | 93.6 | 97.2 | 94.3 | 86.8 | 170.3 |
| 76.0 | 76.1 | 76.8 | 76.6 | 77.3 | 79.5 | 81.4 | 86.7 | 93.8 | 97.9 | 94.2 | 86.1 | 170.7 | |
| 74.0 | 76.7 | 77.5 | 76.6 | 80.1 | 78.8 | 79.4 | 81.5 | 87.9 | 94.9 | 98.7 | 93.8 | 88.2 | 171.5 |
| 77.2 | 79.1 | 78.9 | 78.1 | 79.9 | 79.9 | 80.5 | 82.6 | 88.1 | 94.5 | 99.2 | 92.9 | 87.3 | 171.6 |
| 84.2 | 80.9 | 80.5 | 83.3 | 81.9 | 81.8 | 83.0 | 88.9 | 94.3 | 99.5 | 92.9 | 87.3 | 172.2 | |
| 91.5 | 93.3 | 88.3 | 84.8 | 87.9 | 84.0 | 84.2 | 84.0 | 89.5 | 94.6 | 97.8 | 91.7 | 86.7 | 172.5 |
| 95.4 | 96.0 | 96.1 | 93.6 | 91.7 | 88.3 | 83.7 | 84.7 | 89.2 | 94.5 | 96.2 | 90.7 | 86.0 | 174.0 |
| 97.0 | 90.4 | 91.1 | 92.5 | 90.1 | 90.8 | 88.2 | 85.5 | 89.8 | 93.4 | 95.7 | 89.3 | 84.4 | 172.3 |
| 86.3 | 87.7 | 88.1 | 89.5 | 88.7 | 89.6 | 87.0 | 89.9 | 92.3 | 93.1 | 86.9 | 82.2 | 170.9 | |
| 84.2 | 86.7 | 85.7 | 86.4 | 85.3 | 86.1 | 87.5 | 88.7 | 89.9 | 91.7 | 91.1 | 84.8 | 80.2 | 170.0 |
| 82.2 | 84.7 | 85.1 | 86.1 | 85.8 | 85.6 | 85.8 | 87.6 | 89.1 | 89.5 | 89.9 | 83.7 | 77.9 | 169.3 |
| 80.6 | 83.9 | 84.4 | 85.3 | 84.4 | 84.9 | 84.3 | 85.2 | 87.5 | 88.4 | 87.2 | 80.3 | 74.8 | 168.5 |
| 78.5 | 82.4 | 83.7 | 83.9 | 83.5 | 84.4 | 83.2 | 83.9 | 85.0 | 85.6 | 84.3 | 78.2 | 71.8 | 167.8 |
| 76.2 | 79.9 | 81.4 | 82.5 | 81.8 | 82.8 | 82.1 | 81.5 | 82.8 | 83.0 | 81.4 | 75.3 | 68.2 | 166.9 |
| 72.8 | 76.9 | 79.1 | 79.6 | 79.3 | 79.4 | 80.7 | 79.4 | 78.9 | 71.3 | 62.8 | 62.8 | 166.1 | |
| 67.6 | 73.3 | 75.2 | 76.1 | 75.9 | 77.1 | 76.9 | 76.2 | 77.4 | 76.4 | 73.7 | 66.4 | 54.5 | 165.2 |
| 60.7 | 66.9 | 70.1 | 71.2 | 71.9 | 73.5 | 73.1 | 71.0 | 72.4 | 71.4 | 68.2 | 57.2 | 42.2 | 164.6 |
| 58.3 | 61.5 | 63.0 | 65.4 | 66.6 | 66.3 | 64.9 | 67.0 | 62.8 | 60.3 | 44.9 | 23.5 | 164.6 | |
| 36.6 | 48.1 | 51.9 | 53.8 | 56.4 | 58.2 | 57.3 | 55.6 | 57.0 | 53.5 | 48.8 | 26.2 | 165.6 | |
| 13.9 | 29.1 | 35.8 | 39.3 | 41.6 | 44.3 | 42.8 | 39.9 | 44.4 | 38.8 | 30.4 | | 168.3 | |
| 8.8 | 14.1 | 19.6 | 22.5 | 20.9 | 16.4 | 18.8 | 14.7 | | | | | 172.1 | |
| 8.8 | | | | | | | | | | | | 170.0 | |

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MODEL AREA = 163.1 SQ CM (25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9
NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH078 TEST DATE = 08-24-81
IAPLHA = SB59 IEQA / = NO
WIND DIR = DEG WIND VEL = MPH
LOCAT = C41 ANECH CH CONFIO = 4
PWL AREA = FULL SPHERE TAMB F = 85.00
EXT DIST = 2400.0 FT
EXT CONFIO = SL
FLVEL = 400. FPS
RELHUM = 41.7 PCT
NBFR =
FNRAMB =
LNINI =
LBS XNL =
RPM XNHR =
RPM V8 =
FPS AE8 =
SQ IN =
SQ IN =
CORR FAN SPEED =
RPM =
TEST PT NO = 9422
NC = 862
RPM

4.6 Acoustic Data of Model 5

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0507
BACKGROUND 000000000000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.
PWL

50 81.0 84.1 86.8 80.9 84.0 81.1 85.5 85.9 77.6 85.2 88.5 89.6 127.1
63 83.7 87.8 89.5 85.3 88.4 89.0 95.9 84.6 84.0 93.3 92.0 90.9 94.3 134.7
80 86.2 91.5 88.2 88.8 88.4 90.2 90.9 90.5 84.7 90.1 93.2 95.9 96.8 132.9
100 86.5 93.5 89.3 87.8 91.9 91.5 92.6 93.8 84.5 94.1 97.5 100.7 101.8 136.3
125 83.1 88.1 90.2 91.8 92.4 93.5 92.4 93.5 87.7 95.7 101.1 103.8 105.0 138.4
160 83.5 83.3 88.3 89.3 87.7 90.6 90.8 86.3 86.3 96.9 102.0 105.2 107.1 139.7
200 84.3 84.9 87.4 89.3 87.7 89.3 90.6 94.3 92.9 90.1 98.4 103.1 107.0 140.9
250 84.8 88.1 88.1 94.1 88.7 90.3 93.2 95.4 90.6 103.1 108.5 111.2 111.6 144.6
315 84.0 88.1 88.6 95.6 91.2 92.6 95.2 95.6 92.3 104.9 109.0 112.2 111.6 145.5
400 84.9 88.7 89.4 96.7 91.1 91.7 100.3 96.5 93.7 106.8 110.6 112.8 111.7 146.5
500 85.4 88.5 89.3 97.5 91.1 92.7 95.1 97.0 94.3 106.6 111.0 112.6 111.5 146.4
630 86.0 89.0 90.8 98.4 92.2 94.1 95.9 98.1 94.6 106.9 109.8 111.9 111.4 145.9
800 88.4 90.7 92.2 100.2 93.6 95.0 96.8 99.5 96.7 107.5 108.9 109.8 109.7 145.2
1000 91.5 92.8 93.6 99.9 94.5 95.6 98.0 100.1 96.8 106.7 107.5 108.2 107.4 144.1
1250 89.8 95.0 94.8 100.4 94.9 96.6 98.9 99.9 97.1 106.4 106.8 106.7 106.7 143.5
1600 90.6 94.0 94.4 101.5 96.6 97.9 99.3 101.3 97.7 105.3 106.4 106.5 105.8 143.6
2000 90.3 93.7 95.1 102.0 95.6 97.2 99.4 102.2 97.6 105.9 105.9 105.5 105.5 143.6
2500 90.8 94.8 95.1 101.9 96.3 98.4 100.3 102.7 98.3 106.8 105.3 105.2 104.7 143.9
3150 91.6 94.9 95.5 102.7 97.3 99.4 101.8 104.5 99.9 106.9 107.4 107.2 106.7 145.3
4000 91.0 94.4 96.3 103.3 97.1 99.1 102.0 104.5 99.9 106.9 107.1 106.3 105.6 144.8
5000 92.1 96.0 96.9 103.9 98.1 99.8 102.7 105.8 101.0 109.1 110.2 108.3 107.5 147.1
6300 95.7 99.5 98.5 104.3 99.0 99.9 103.0 106.1 101.4 108.5 110.1 108.3 107.8 147.8
8000 98.3 100.1 102.0 104.0 98.6 100.7 103.1 106.7 100.9 108.0 108.2 107.2 105.7 148.4
10000 98.8 105.2 105.8 104.0 101.8 103.0 103.0 105.0 101.1 108.0 108.2 107.2 105.7 148.4
12500 98.7 100.6 104.7 102.7 103.5 102.7 102.5 103.7 100.3 105.7 106.2 105.0 104.0 147.9
16000 93.5 98.4 100.6 100.5 103.8 103.1 102.4 102.2 98.5 102.8 104.3 102.9 101.6 147.7
20000 92.4 96.5 98.6 97.9 100.5 102.5 101.8 100.4 95.3 100.9 102.2 101.0 98.9 147.6
25000 89.3 94.3 96.6 96.6 99.7 100.3 99.4 94.6 99.8 100.9 98.4 95.7 94.8 148.2
31500 84.3 89.3 92.0 92.2 94.5 95.8 95.1 94.7 90.8 96.6 97.5 93.9 88.9 147.1
40000 81.0 87.4 90.6 90.2 93.3 93.2 93.0 93.1 88.7 95.0 96.6 91.9 86.5 149.4
50000 78.3 84.9 88.7 88.4 90.2 90.9 90.4 86.6 86.6 93.8 94.4 90.0 82.7 151.6
63000 74.7 82.5 85.5 86.4 86.7 88.4 87.1 88.1 84.7 92.6 93.5 87.1 78.6 154.8
80000 68.4 79.5 83.0 83.1 83.4 85.1 82.9 84.1 81.5 90.2 90.6 83.1 72.6 158.5

QASPL 106.2 111.0 112.0 114.7 111.8 112.6 114.3 115.8 111.6 119.8 121.5 122.3 121.8 163.5
PNLT 117.4 121.5 121.7 127.0 121.8 123.4 126.0 128.1 123.7 132.2 133.6 133.2 132.8
DBA 104.3 108.7 108.9 113.8 108.5 109.9 112.4 114.7 110.5 118.8 119.9 120.0 119.4

NASA SHOCK CELL/20 EL ANN CV SUPP NO2 SC-5/NAS3-22514

VEHICL = ADH175 TEST DATE = 6-30-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLVEL = 0. FPS
IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 72.00 MIKE HT = 29.35 RELHUM = 69.1 PCT
WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC NBFR =

FMINI = LBS XNL RPM XNH RPM XNHR = RPM V8 = 2377.8 FPS AE8 = 19.9 SO IN
FMRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2377.8 FPS AE18 = 0. SO IN

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DATPRCC - FLIRAN

08/12/82 16.168 PAGE 3

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0507 X0507F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.
PWL

| | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|-------|
| 50 | 61.0 | 64.1 | 66.6 | 68.9 | 71.1 | 73.6 | 76.6 | 80.5 | 85.2 | 89.6 | 127.1 |
| 63 | 63.7 | 66.5 | 69.3 | 72.8 | 76.4 | 80.9 | 86.4 | 93.3 | 99.9 | 108.7 | 134.7 |
| 80 | 66.2 | 69.5 | 73.5 | 78.2 | 83.8 | 90.2 | 97.9 | 107.5 | 119.1 | 132.9 | |
| 100 | 69.5 | 73.5 | 78.6 | 85.3 | 93.6 | 103.5 | 115.8 | 130.8 | 148.7 | 166.3 | |
| 125 | 73.1 | 78.1 | 85.3 | 94.2 | 105.2 | 118.1 | 134.2 | 153.4 | 176.7 | 198.4 | |
| 160 | 83.5 | 89.3 | 98.3 | 110.7 | 126.2 | 145.8 | 169.9 | 199.9 | 237.7 | 280.4 | |
| 200 | 84.3 | 90.9 | 101.5 | 115.8 | 134.2 | 158.1 | 188.1 | 228.1 | 280.4 | 344.7 | |
| 250 | 84.8 | 92.1 | 104.3 | 122.0 | 145.8 | 176.6 | 216.6 | 266.6 | 333.3 | 416.7 | |
| 315 | 84.0 | 92.8 | 106.6 | 127.7 | 154.8 | 188.1 | 233.3 | 293.3 | 373.3 | 473.3 | |
| 400 | 84.9 | 94.9 | 110.7 | 134.2 | 166.6 | 206.6 | 256.6 | 326.6 | 426.6 | 556.6 | |
| 500 | 85.4 | 97.5 | 115.8 | 145.8 | 185.8 | 235.8 | 295.8 | 375.8 | 485.8 | 635.8 | |
| 630 | 86.0 | 100.8 | 122.0 | 154.8 | 199.9 | 254.8 | 324.8 | 414.8 | 534.8 | 704.8 | |
| 800 | 86.8 | 104.8 | 130.8 | 166.6 | 206.6 | 266.6 | 346.6 | 456.6 | 596.6 | 796.6 | |
| 1000 | 87.5 | 108.7 | 138.7 | 176.6 | 226.6 | 296.6 | 396.6 | 526.6 | 696.6 | 946.6 | |
| 1250 | 89.8 | 110.4 | 144.8 | 188.1 | 244.8 | 324.8 | 434.8 | 574.8 | 764.8 | 1034.8 | |
| 1600 | 90.6 | 115.8 | 154.8 | 199.9 | 274.8 | 364.8 | 494.8 | 654.8 | 884.8 | 1184.8 | |
| 2000 | 90.3 | 120.8 | 166.6 | 206.6 | 304.8 | 404.8 | 544.8 | 734.8 | 994.8 | 1344.8 | |
| 2500 | 90.8 | 124.8 | 176.6 | 226.6 | 334.8 | 444.8 | 594.8 | 814.8 | 1104.8 | 1494.8 | |
| 3000 | 91.0 | 127.7 | 188.1 | 244.8 | 364.8 | 484.8 | 644.8 | 884.8 | 1184.8 | 1644.8 | |
| 3500 | 91.6 | 130.8 | 199.9 | 266.6 | 404.8 | 534.8 | 714.8 | 964.8 | 1264.8 | 1744.8 | |
| 4000 | 91.0 | 134.2 | 206.6 | 274.8 | 434.8 | 574.8 | 774.8 | 1034.8 | 1344.8 | 1844.8 | |
| 5000 | 92.1 | 140.8 | 226.6 | 296.6 | 484.8 | 634.8 | 844.8 | 1134.8 | 1484.8 | 2034.8 | |
| 6300 | 95.7 | 154.8 | 333.3 | 426.6 | 556.6 | 746.6 | 1006.6 | 1306.6 | 1706.6 | 2256.6 | |
| 8000 | 98.3 | 166.6 | 373.3 | 485.8 | 635.8 | 855.8 | 1155.8 | 1505.8 | 1955.8 | 2555.8 | |
| 10000 | 98.8 | 176.6 | 404.8 | 654.8 | 699.9 | 939.9 | 1259.9 | 1659.9 | 2159.9 | 2859.9 | |
| 12500 | 97.7 | 176.6 | 404.8 | 654.8 | 699.9 | 939.9 | 1259.9 | 1659.9 | 2159.9 | 2859.9 | |
| 15000 | 93.5 | 166.6 | 373.3 | 485.8 | 635.8 | 855.8 | 1155.8 | 1505.8 | 1955.8 | 2555.8 | |
| 20000 | 92.4 | 154.8 | 333.3 | 426.6 | 556.6 | 746.6 | 1006.6 | 1306.6 | 1706.6 | 2256.6 | |
| 25000 | 89.3 | 144.8 | 296.6 | 384.8 | 504.8 | 664.8 | 884.8 | 1144.8 | 1444.8 | 1844.8 | |
| 30000 | 84.3 | 134.2 | 266.6 | 344.8 | 454.8 | 604.8 | 814.8 | 1064.8 | 1314.8 | 1614.8 | |
| 35000 | 78.3 | 124.8 | 226.6 | 304.8 | 404.8 | 534.8 | 714.8 | 934.8 | 1184.8 | 1434.8 | |
| 40000 | 81.0 | 117.4 | 206.6 | 274.8 | 364.8 | 484.8 | 644.8 | 864.8 | 1104.8 | 1344.8 | |
| 50000 | 78.3 | 108.7 | 188.1 | 244.8 | 324.8 | 434.8 | 574.8 | 764.8 | 1004.8 | 1244.8 | |
| 63000 | 74.7 | 98.3 | 166.6 | 216.6 | 286.6 | 386.6 | 516.6 | 686.6 | 916.6 | 1146.6 | |
| 80000 | 68.4 | 88.1 | 130.8 | 176.6 | 233.3 | 313.3 | 413.3 | 543.3 | 723.3 | 943.3 | |
| DBA | 190.3 | 200.4 | 203.9 | 204.1 | 204.5 | 206.1 | 204.1 | 205.3 | 202.4 | 211.0 | 211.5 |
| PWL | 117.4 | 121.5 | 121.7 | 127.0 | 128.4 | 126.9 | 128.1 | 123.7 | 132.2 | 133.6 | 132.8 |
| QASPL | 106.2 | 111.0 | 112.0 | 114.7 | 111.8 | 112.6 | 114.3 | 115.8 | 111.6 | 119.8 | 121.8 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN CV SUPP NO2 SC-5/NAS3-22514

VEHICL = ADH175 TEST DATE = 6-30-82 LOCAT = C41 ANECH CH CNFIGN = 5 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.35 RELHUM = 69.1 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIGN = ARC MIKE HT = NBFR

FMINI = LBS XNL = RPM XNHR = RPM V8 = 2377.8 FPS AEB = 19.9 SO IN
FMRAMB = LBS XNL = RPM XNHR = RPM V16 = 2377.8 FPS AEB = 19.9 SO IN

RUNPT = 82F-ZER-0507 TAPE = X0507F TEST PT NO = 0507 NC = AE049 CORR FAN SPEED = RPM

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IDENTIFICATION - 82F-ZER-0507 X05071

ANGLES MEASURED FROM INLET, DEGREES

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

DATPRC - F.L.RAN

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IDENTIFICATION - MODEL 82F-400-0508 X0508C
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 83.5 85.4 85.8 82.1 81.6 79.0 86.3 83.5 77.7 80.0 89.5 89.9 95.0 128.0

63 84.4 92.9 94.7 90.2 89.5 86.2 96.3 91.4 83.5 84.7 92.8 92.8 96.8 134.1

80 85.3 91.4 86.8 87.5 89.9 89.5 89.6 90.8 91.7 82.5 90.6 94.3 98.9 134.3

100 85.3 91.4 86.8 87.5 89.9 89.5 89.6 90.8 91.7 82.5 90.6 94.3 98.9 134.3

125 82.2 86.3 87.4 89.7 90.1 91.2 90.4 84.0 92.1 98.6 102.0 104.1 136.5

150 80.5 79.7 86.2 86.5 85.2 85.4 86.7 82.8 93.3 99.2 102.9 105.8 137.4

200 81.3 82.2 84.5 89.1 84.2 86.5 91.7 89.3 85.5 93.9 99.1 104.0 106.4 137.9

250 79.3 83.7 83.2 89.6 84.7 86.2 86.3 90.8 85.4 98.4 104.3 107.5 140.8

315 78.8 83.5 84.8 90.8 85.8 87.2 90.9 90.8 87.6 100.1 104.8 107.7 141.1

400 80.3 83.6 84.3 90.7 85.9 86.5 93.8 90.9 88.3 101.7 105.6 108.1 108.2 141.4

500 80.8 83.9 84.2 92.0 85.7 87.9 89.5 91.5 88.8 101.8 105.7 106.6 103.5 140.5

630 80.7 83.5 85.3 93.3 87.1 88.7 90.1 92.3 89.2 102.9 104.5 104.2 100.1 139.5

800 82.9 84.4 85.7 95.2 87.8 89.4 91.3 94.2 91.2 102.8 103.7 101.1 96.2 138.7

1000 84.5 84.5 87.1 95.4 88.9 90.3 92.7 95.1 92.8 102.5 97.7 91.2 138.2

1250 83.5 87.8 88.3 86.4 89.2 91.3 92.7 95.0 96.6 93.9 102.0 101.1 93.0 138.2

1600 86.1 87.0 89.2 97.5 91.3 92.7 95.0 96.6 93.9 102.0 101.1 93.0 138.2

2000 86.3 87.2 89.1 98.2 91.3 92.7 94.9 98.0 94.3 103.1 100.9 92.8 138.8

2500 87.6 89.1 89.9 98.4 92.7 94.1 95.8 98.9 95.0 103.8 99.8 91.9 139.3

3150 87.4 89.4 90.2 99.0 92.8 95.1 97.5 100.2 95.8 103.6 100.1 91.8 139.8

4000 87.5 88.6 91.0 99.5 93.6 95.3 97.7 101.0 96.1 103.6 99.3 92.4 140.1

5000 89.3 91.0 92.4 100.9 94.8 97.3 99.2 101.5 97.7 105.3 101.9 94.7 141.8

6300 95.4 95.0 95.4 95.2 96.2 97.4 99.9 103.1 99.1 108.4 103.8 97.3 143.4

8000 99.7 101.1 100.1 102.5 96.8 98.1 100.3 103.4 99.3 107.9 105.7 99.7 145.3

10000 101.2 104.4 103.4 100.2 99.9 101.4 103.1 100.5 108.8 106.8 101.6 97.1 147.2

12500 97.8 100.7 103.5 102.8 103.3 102.3 101.4 102.8 99.8 106.7 105.0 101.6 147.2

16000 94.5 98.6 99.3 100.2 102.5 102.8 101.9 97.9 104.2 102.5 99.6 94.6 147.0

20000 93.2 96.3 97.7 99.6 101.6 101.7 100.0 95.5 101.3 100.7 97.0 92.7 146.9

25000 89.8 92.9 96.6 99.2 99.4 100.0 99.2 94.2 99.2 99.2 94.1 89.3 147.4

31500 83.3 88.4 89.6 91.4 93.2 94.8 94.5 94.1 89.9 94.8 93.6 89.2 145.6

40000 80.4 85.6 87.8 89.1 90.3 91.7 91.8 92.1 87.4 92.0 90.6 85.2 146.9

50000 77.2 81.9 84.7 86.2 87.3 89.0 88.2 89.0 84.4 89.7 87.4 81.7 148.1

63000 73.0 79.2 81.4 83.6 84.0 85.4 84.3 85.5 81.7 84.5 84.5 77.6 150.5

80000 66.5 76.4 78.7 80.3 80.3 81.9 79.8 80.5 78.4 85.1 80.5 72.7 153.7

8ASPL 106.5 109.1 109.9 112.2 109.9 110.6 111.7 113.0 109.2 117.4 116.9 116.2 115.6 159.9

PWL 116.3 118.0 118.6 123.7 118.2 119.9 122.2 124.4 120.4 128.9 127.7 124.2 122.3

DBA 103.7 105.5 105.8 110.6 105.0 106.4 108.5 111.2 107.4 116.0 114.5 111.5 109.0

NASA SHOCK CELL/20 EL ANN CV SUPP NO2 SC-5/NAS3-22514

VEHICL = ADH182 TEST DATE = 6-30-82 LOCAL = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 73.00 PAMB HG = 29.35 RELHUM = 82.1 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FMNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2373.4 FPS AEB = 19.9 SQ IN
FMRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2373.4 FPS AEB = 19.9 SQ IN
RUNPT = 82F-400-0508 TAPE = X0508C TEST PT NO = 0508 NC = AE049 CORR FAN SPEED = RPM

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PWL

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0508 X05081

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 66.1 71.0 71.8 76.9 70.6 69.7 75.2 70.5 67.5 80.7 80.7 77.6 156.8
63 67.1 70.6 71.1 76.5 70.6 71.1 71.1 71.1 68.7 80.6 80.5 79.7 156.6
80 68.3 70.6 71.4 78.3 72.1 72.0 72.1 72.5 71.7 81.8 81.3 79.0 157.2
100 68.5 71.5 72.8 79.8 72.8 72.7 73.4 74.9 73.7 82.4 81.4 77.7 157.4
125 70.3 72.2 73.0 81.6 73.7 74.7 75.7 73.6 82.0 80.5 75.1 74.1 157.3
160 71.7 72.2 74.3 81.6 74.1 74.7 75.4 76.0 74.5 81.3 79.5 72.5 157.0
200 70.1 74.9 75.2 82.4 76.4 76.1 77.0 76.9 74.9 82.3 79.1 71.5 157.9
250 73.2 74.6 76.4 83.7 76.5 76.2 76.9 76.3 75.5 82.8 77.7 70.6 158.5
315 73.0 74.5 76.1 84.4 77.9 77.7 77.8 79.2 76.7 83.1 78.4 70.6 158.5
400 74.0 76.2 76.8 84.5 78.1 78.8 80.0 80.9 77.6 83.4 77.8 71.4 160.5
500 74.0 76.7 77.3 85.2 79.1 79.3 80.7 82.2 78.9 84.8 80.0 73.2 162.1
630 73.9 75.8 78.0 85.8 80.4 81.5 82.1 82.5 80.3 86.1 82.0 75.8 163.9
800 75.1 77.8 79.2 87.1 81.0 81.3 82.7 84.0 80.3 87.2 83.4 77.5 165.6
1000 77.8 79.5 80.0 86.0 80.9 81.9 82.7 83.9 81.8 88.4 84.8 79.5 167.2
1250 79.1 82.6 85.8 87.1 83.6 83.9 83.8 81.9 86.7 82.7 78.4 73.6 167.8
1600 79.7 84.9 86.5 86.1 87.5 85.7 84.0 83.9 80.1 84.0 79.6 75.1 169.2
2000 77.0 82.2 86.2 86.6 86.0 86.0 84.8 82.7 75.9 79.1 75.7 70.0 169.4
2500 71.5 78.6 80.7 82.1 83.1 84.3 82.6 78.6 75.5 77.9 72.9 66.0 168.8
3150 66.2 73.2 76.6 77.5 80.9 80.8 79.9 77.2 71.2 68.1 59.2 44.7 169.3
4000 58.5 66.6 71.7 73.5 72.9 73.3 72.1 69.7 65.6 66.4 59.6 47.3 169.6
5000 41.4 53.6 58.6 62.0 65.0 65.4 64.3 62.2 56.3 46.5 30.0 1.9 169.5
6300 20.4 36.2 44.3 48.5 51.9 52.8 50.6 47.1 41.1 39.4 24.5 170.6
8000 6.7 19.0 25.5 30.5 31.4 28.0 24.4 18.0 13.4 172.8 174.0

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MODEL AREA = 128.3 SQ CM (19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICL = ADH182 TEST DATE = 6-30-82 LOCAL = C41 ANECH CH CONFIG = 5 MODEL = AX FLVEL = 400. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 73.00 PAMB HG = 29.35 RELHUM = 82.1 PCT
WIND DIR = SB59 DEG WIND/VEL = NO MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR

FMINI = LBS XNL RPM XNH XNHR = RPM V8 = 2373.4 FPS AE8 = 19.9 SQ IN
FMRAMB = LBS XNLR = RPM V18 = 2373.4 FPS AE18 = 0. SQ IN

RUNPT = 82F-400-0508 TAPE = X05081 TEST PT NB = 0508 NC = AE049 CORR FAN SPEED = RPM

DATAPROC - FL .AN

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0513 X0513F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 81.0 | 84.1 | 85.3 | 81.9 | 81.7 | 80.1 | 85.7 | 86.4 | 77.3 | 84.2 | 88.0 | 89.0 | 89.4 | 126.8 |
| 63 | 84.5 | 93.0 | 95.0 | 89.3 | 91.1 | 88.0 | 97.1 | 95.1 | 83.8 | 91.8 | 92.5 | 93.4 | 134.9 | |
| 80 | 87.2 | 92.5 | 89.2 | 89.3 | 89.4 | 91.2 | 91.9 | 91.3 | 85.0 | 90.6 | 93.7 | 96.6 | 133.7 | |
| 100 | 86.5 | 94.2 | 90.0 | 88.6 | 92.6 | 92.0 | 93.4 | 94.1 | 85.3 | 94.6 | 97.7 | 100.4 | 102.1 | 136.6 |
| 125 | 83.6 | 88.9 | 90.9 | 89.4 | 92.3 | 94.0 | 93.7 | 87.9 | 96.0 | 101.4 | 104.0 | 105.5 | 138.8 | |
| 160 | 83.5 | 84.0 | 88.6 | 89.8 | 88.2 | 88.6 | 98.9 | 91.3 | 86.8 | 96.6 | 102.0 | 104.9 | 106.9 | 139.6 |
| 200 | 84.6 | 85.1 | 87.1 | 84.2 | 88.8 | 90.9 | 94.3 | 93.2 | 90.9 | 98.7 | 103.3 | 107.5 | 109.2 | 141.3 |
| 250 | 85.0 | 88.6 | 94.9 | 89.7 | 90.6 | 93.2 | 96.1 | 91.3 | 103.1 | 108.5 | 111.0 | 112.4 | 144.6 | |
| 315 | 84.3 | 88.3 | 89.3 | 86.9 | 89.7 | 93.1 | 96.2 | 95.6 | 93.6 | 105.4 | 109.0 | 112.0 | 145.7 | |
| 400 | 85.4 | 89.2 | 89.9 | 97.0 | 91.6 | 92.4 | 100.6 | 97.2 | 94.2 | 107.5 | 110.6 | 113.1 | 146.7 | |
| 500 | 85.4 | 88.7 | 90.0 | 98.0 | 91.9 | 93.2 | 95.1 | 97.5 | 94.8 | 107.6 | 111.0 | 112.9 | 146.8 | |
| 630 | 86.3 | 89.8 | 91.3 | 99.4 | 92.2 | 94.1 | 96.4 | 98.6 | 94.8 | 107.6 | 110.0 | 112.2 | 146.4 | |
| 800 | 88.9 | 91.2 | 92.7 | 100.2 | 93.8 | 95.5 | 96.8 | 100.2 | 97.0 | 107.8 | 110.3 | 110.5 | 145.5 | |
| 1000 | 92.5 | 93.3 | 93.8 | 100.9 | 94.7 | 96.1 | 98.2 | 100.6 | 97.3 | 107.2 | 107.0 | 108.5 | 144.5 | |
| 1250 | 90.0 | 95.5 | 95.3 | 101.6 | 95.7 | 97.1 | 98.9 | 100.9 | 97.8 | 106.9 | 107.0 | 107.2 | 144.3 | |
| 1600 | 91.1 | 93.5 | 94.9 | 102.2 | 96.6 | 98.2 | 100.8 | 101.6 | 98.7 | 106.1 | 106.6 | 107.1 | 144.1 | |
| 2000 | 90.8 | 94.2 | 95.4 | 102.5 | 96.3 | 97.9 | 99.9 | 101.7 | 98.4 | 106.9 | 105.7 | 106.2 | 144.1 | |
| 2500 | 91.3 | 95.3 | 95.6 | 102.4 | 97.3 | 98.9 | 100.3 | 102.7 | 98.5 | 107.8 | 105.8 | 106.4 | 144.5 | |
| 3150 | 92.4 | 95.9 | 95.7 | 102.7 | 97.6 | 99.3 | 102.0 | 104.5 | 99.8 | 107.9 | 106.7 | 106.8 | 145.3 | |
| 4000 | 91.2 | 94.4 | 95.8 | 103.0 | 97.6 | 99.3 | 101.5 | 105.0 | 99.7 | 107.4 | 106.7 | 105.9 | 145.4 | |
| 5000 | 93.1 | 96.0 | 96.7 | 104.2 | 97.9 | 100.3 | 102.7 | 105.3 | 100.8 | 109.6 | 108.0 | 107.3 | 147.0 | |
| 6300 | 96.7 | 98.5 | 98.8 | 104.5 | 98.7 | 100.4 | 103.5 | 106.6 | 101.6 | 109.7 | 110.3 | 108.3 | 147.9 | |
| 8000 | 98.8 | 104.1 | 103.0 | 104.3 | 99.6 | 100.7 | 102.6 | 106.4 | 101.2 | 109.0 | 108.7 | 107.3 | 147.9 | |
| 10000 | 99.6 | 105.2 | 106.5 | 104.8 | 102.8 | 103.3 | 105.5 | 101.4 | 108.5 | 108.2 | 105.9 | 104.4 | 148.7 | |
| 12500 | 96.7 | 100.9 | 104.7 | 103.2 | 103.2 | 102.8 | 103.7 | 100.3 | 105.9 | 105.7 | 104.3 | 102.5 | 148.0 | |
| 16000 | 94.3 | 98.4 | 100.4 | 100.5 | 103.8 | 102.4 | 102.5 | 98.0 | 103.6 | 103.3 | 101.9 | 101.7 | 147.7 | |
| 20000 | 93.4 | 97.0 | 98.9 | 98.4 | 101.0 | 102.3 | 102.1 | 100.2 | 96.3 | 100.9 | 101.7 | 99.5 | 147.6 | |
| 25000 | 90.6 | 94.6 | 97.1 | 97.0 | 99.3 | 99.9 | 100.3 | 99.6 | 94.9 | 100.5 | 99.4 | 97.2 | 148.3 | |
| 31500 | 84.8 | 90.5 | 92.3 | 94.5 | 96.3 | 95.3 | 95.4 | 90.5 | 96.8 | 96.2 | 92.7 | 88.9 | 147.2 | |
| 40000 | 81.8 | 88.1 | 90.4 | 90.3 | 92.7 | 93.8 | 93.2 | 93.1 | 88.9 | 95.0 | 94.9 | 89.9 | 149.2 | |
| 50000 | 79.3 | 85.4 | 88.2 | 88.9 | 90.7 | 91.6 | 90.6 | 89.9 | 87.4 | 93.8 | 92.9 | 87.8 | 151.5 | |
| 63000 | 75.4 | 82.8 | 86.0 | 86.7 | 87.5 | 88.6 | 87.3 | 86.8 | 85.5 | 92.9 | 91.0 | 84.9 | 154.7 | |
| 80000 | 69.4 | 79.7 | 83.5 | 84.1 | 83.4 | 86.1 | 82.4 | 83.9 | 82.5 | 89.7 | 88.6 | 80.6 | 158.2 | |
| QASPL | 106.9 | 111.3 | 112.4 | 115.1 | 112.3 | 113.0 | 114.5 | 116.1 | 111.8 | 120.4 | 121.4 | 122.3 | 122.2 | 163.4 |
| NLTL | 119.1 | 122.1 | 122.2 | 127.3 | 122.1 | 123.8 | 126.5 | 123.9 | 132.8 | 133.3 | 133.2 | 132.8 | | |
| DBA | 191.2 | 200.7 | 204.4 | 205.0 | 204.6 | 207.0 | 203.9 | 205.2 | 203.4 | 210.6 | 209.4 | 201.8 | 192.7 | |

ORIGINAL PAGE IS
OF POOR QUALITYMODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES
NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514VEHICL = ADH176 TEST DATE = 6-30-82 LOCAL = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.30 RELHUM = 69.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFRFMN1 = LBS XNL RPM = XNH XNHR = RPM V8 = 2411.5 FPS AE8 = 19.9 SQ IN
FNRMB = LBS XNLR = XNHR = RPM V8 = 2411.5 FPS AE8 = 19.9 SQ IN

RUNPT = 82F-ZER-0513 TAPE = X0513F TEST PT NO = 0513 NC = AE049 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL B2F-400-0514 X0514C
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|---|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PWL | 84.0 | 84.6 | 86.1 | 81.4 | 83.5 | 80.8 | 88.0 | 86.4 | 78.3 | 80.7 | 90.0 | 90.5 | 96.4 |
| 50 | 85.7 | 92.0 | 95.5 | 88.6 | 91.6 | 87.3 | 98.1 | 94.8 | 84.8 | 86.8 | 91.7 | 94.3 | 134.9 |
| 60 | 85.9 | 91.5 | 88.5 | 87.8 | 88.1 | 90.0 | 90.6 | 90.0 | 84.7 | 89.1 | 91.9 | 95.1 | 132.7 |
| 100 | 85.7 | 91.7 | 87.8 | 87.1 | 89.6 | 90.0 | 91.1 | 92.8 | 83.3 | 91.6 | 95.0 | 99.2 | 134.9 |
| 125 | 82.9 | 87.1 | 88.9 | 87.9 | 90.0 | 90.7 | 92.0 | 91.4 | 84.7 | 92.7 | 98.9 | 102.8 | 137.0 |
| 160 | 81.5 | 80.5 | 86.8 | 85.7 | 86.1 | 86.2 | 87.8 | 84.1 | 93.6 | 99.8 | 102.9 | 106.4 | 137.9 |
| 200 | 81.6 | 83.4 | 84.6 | 89.7 | 85.3 | 87.4 | 91.8 | 89.9 | 86.6 | 94.4 | 99.6 | 104.5 | 138.5 |
| 250 | 79.5 | 83.8 | 90.1 | 85.2 | 87.3 | 89.0 | 91.1 | 86.8 | 98.6 | 104.5 | 108.0 | 141.2 | |
| 315 | 79.8 | 84.1 | 85.6 | 91.6 | 86.7 | 88.1 | 90.7 | 91.4 | 88.3 | 100.9 | 105.5 | 108.7 | 142.0 |
| 400 | 80.1 | 84.2 | 84.7 | 92.0 | 86.6 | 87.4 | 95.1 | 92.0 | 88.9 | 102.2 | 106.6 | 109.1 | 142.3 |
| 500 | 80.9 | 84.8 | 92.8 | 86.6 | 88.0 | 90.4 | 93.6 | 90.1 | 89.5 | 102.8 | 107.6 | 104.3 | 141.3 |
| 630 | 80.8 | 84.0 | 86.1 | 94.6 | 87.4 | 89.1 | 91.4 | 92.0 | 89.5 | 103.6 | 105.5 | 107.7 | 140.6 |
| 800 | 82.9 | 85.2 | 86.5 | 95.2 | 88.3 | 90.0 | 91.6 | 95.0 | 92.5 | 104.0 | 105.2 | 102.6 | 140.0 |
| 1000 | 85.0 | 85.6 | 87.3 | 96.1 | 89.2 | 90.8 | 93.5 | 95.9 | 93.3 | 103.4 | 103.3 | 99.7 | 139.0 |
| 1250 | 83.5 | 86.6 | 87.1 | 89.9 | 91.6 | 93.9 | 96.6 | 93.6 | 93.6 | 103.6 | 102.8 | 96.4 | 139.0 |
| 1600 | 86.4 | 87.8 | 89.7 | 98.0 | 92.1 | 93.2 | 95.8 | 97.6 | 94.4 | 102.5 | 102.1 | 94.6 | 138.9 |
| 2000 | 86.0 | 87.9 | 89.4 | 99.0 | 91.8 | 93.2 | 95.7 | 99.0 | 95.1 | 103.4 | 101.4 | 83.5 | 139.3 |
| 2500 | 86.8 | 89.1 | 90.6 | 98.7 | 92.8 | 94.4 | 96.3 | 99.9 | 95.0 | 104.6 | 101.1 | 93.4 | 140.0 |
| 3150 | 87.4 | 89.9 | 90.7 | 99.7 | 93.8 | 95.6 | 98.5 | 100.5 | 96.3 | 104.4 | 101.4 | 88.3 | 140.6 |
| 4000 | 87.7 | 89.4 | 91.5 | 99.5 | 93.6 | 95.8 | 98.2 | 101.5 | 96.2 | 104.1 | 100.8 | 93.7 | 140.6 |
| 5000 | 90.3 | 92.3 | 92.4 | 101.4 | 94.6 | 97.0 | 99.7 | 102.5 | 98.0 | 106.6 | 102.7 | 95.7 | 142.6 |
| 6300 | 96.4 | 97.0 | 96.2 | 102.0 | 96.4 | 97.9 | 100.4 | 103.6 | 98.6 | 106.7 | 104.8 | 93.1 | 143.9 |
| 8000 | 100.7 | 102.8 | 100.6 | 103.5 | 97.8 | 98.1 | 100.8 | 104.1 | 99.6 | 108.1 | 105.7 | 100.2 | 145.8 |
| 10000 | 100.2 | 104.9 | 105.6 | 104.2 | 101.7 | 100.9 | 101.7 | 104.1 | 101.0 | 108.8 | 107.1 | 102.0 | 147.8 |
| 12500 | 97.1 | 100.4 | 103.5 | 103.3 | 104.6 | 103.6 | 102.1 | 103.3 | 100.1 | 107.0 | 101.6 | 96.4 | 147.8 |
| 16000 | 95.3 | 99.6 | 99.5 | 100.4 | 102.8 | 103.3 | 102.8 | 102.4 | 98.2 | 104.5 | 103.5 | 99.3 | 147.5 |
| 20000 | 93.0 | 96.3 | 97.7 | 98.8 | 99.6 | 101.6 | 101.9 | 100.8 | 95.8 | 101.6 | 100.5 | 97.0 | 147.1 |
| 25000 | 90.0 | 93.9 | 95.4 | 96.8 | 98.5 | 99.4 | 100.3 | 99.7 | 94.9 | 99.5 | 98.0 | 94.3 | 147.7 |
| 31500 | 83.0 | 88.9 | 89.9 | 92.1 | 93.2 | 95.0 | 95.0 | 94.8 | 89.1 | 94.8 | 92.4 | 88.9 | 146.0 |
| 40000 | 79.7 | 86.1 | 87.3 | 89.3 | 90.6 | 91.9 | 91.8 | 92.4 | 87.6 | 92.0 | 91.6 | 85.5 | 147.1 |
| 50000 | 76.7 | 82.9 | 84.2 | 86.7 | 88.0 | 89.5 | 89.0 | 89.0 | 84.6 | 89.4 | 88.2 | 82.2 | 148.6 |
| 63000 | 73.2 | 79.9 | 82.2 | 84.1 | 85.0 | 86.1 | 85.1 | 86.5 | 82.9 | 88.2 | 86.0 | 77.9 | 151.3 |
| 80000 | 66.5 | 76.9 | 80.4 | 81.3 | 81.8 | 82.4 | 81.5 | 81.5 | 79.4 | 87.4 | 82.0 | 70.7 | 155.2 |
| QASPL | 106.5 | 109.9 | 110.5 | 112.8 | 110.6 | 111.1 | 112.3 | 113.7 | 109.6 | 117.9 | 117.6 | 116.0 | 160.7 |
| PNL | 116.8 | 119.2 | 119.5 | 124.2 | 118.7 | 120.1 | 123.6 | 125.1 | 120.8 | 129.7 | 128.5 | 125.2 | 122.9 |
| DBA | 104.0 | 106.7 | 106.6 | 111.2 | 105.7 | 106.8 | 109.1 | 111.9 | 107.7 | 116.6 | 115.3 | 112.6 | 109.7 |
| NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514 | | | | | | | | | | | | | |
| VEHICLE | = ADH181 | | | | | | | | | | | | |
| TEST DATE | = 6-30-82 | | | | | | | | | | | | |
| LOCAL | = CAT ANECH CH | | | | | | | | | | | | |
| CONFIG | = 5 | | | | | | | | | | | | |
| TAMB F | = 73.00 | | | | | | | | | | | | |
| EXT CONFIG | = ARC | | | | | | | | | | | | |
| MIKE HT | = 29.35 | | | | | | | | | | | | |
| PAMB HG | = AX | | | | | | | | | | | | |
| RELHUM | = 400. FPS | | | | | | | | | | | | |
| NBFR | = 62.1 PCT | | | | | | | | | | | | |
| WIND DIR | = SB59 | | | | | | | | | | | | |
| DEG WIND YEL | = NO | | | | | | | | | | | | |
| RPM | = | | | | | | | | | | | | |
| XNHR | = | | | | | | | | | | | | |
| RPM | = | | | | | | | | | | | | |
| VB | = 2401.1 FPS | | | | | | | | | | | | |
| FPS | = | | | | | | | | | | | | |
| AE8 | = 19.9 SQ IN | | | | | | | | | | | | |
| 0. SQ IN | = | | | | | | | | | | | | |
| CGRR FAN SPEED | = | | | | | | | | | | | | |
| AE049 | = | | | | | | | | | | | | |
| NC | = | | | | | | | | | | | | |
| TEST PT NO | = 0514 | | | | | | | | | | | | |
| RPM | = | | | | | | | | | | | | |
| AE049 | = | | | | | | | | | | | | |
| CGRR FAN SPEED | = | | | | | | | | | | | | |
| RPM | = | | | | | | | | | | | | |

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0514 X0514F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.
FREQ 50 63 80 100 125 160
PWL

250 87.6 90.5 88.7 93.5 86.9 87.3 87.1 84.9 96.5 100.6 104.3 106.0 138.4
315 87.6 90.5 88.7 93.5 86.7 88.3 89.4 86.6 85.7 98.2 102.2 105.4 139.2
400 88.1 91.1 91.0 95.4 88.6 87.7 89.8 89.2 86.5 99.1 102.2 104.8 139.2
500 88.3 91.0 90.1 95.7 88.8 88.3 89.1 89.4 87.6 100.5 102.3 104.2 139.0
630 89.4 90.9 90.4 96.7 89.7 89.5 90.5 91.2 91.6 102.8 104.1 104.3 140.2
800 89.5 91.5 91.1 93.5 93.1 94.6 92.9 102.8 102.7 99.8 102.0 139.6
1000 91.6 92.6 92.3 99.4 91.6 91.5 93.1 94.6 92.9 102.8 102.7 99.8 102.0 139.6
1250 93.6 92.9 93.2 100.3 92.4 92.4 93.5 95.0 93.7 101.6 102.0 97.9 100.1 139.3
1600 91.8 95.7 94.5 101.2 94.9 94.2 95.4 96.0 94.6 102.7 101.4 97.0 100.5 140.1
2000 95.5 95.7 96.0 102.6 94.9 94.5 95.6 97.6 94.7 103.9 100.9 96.6 99.1 140.8
2500 95.3 96.0 95.9 103.8 96.1 96.0 96.5 98.8 96.5 104.3 101.9 97.2 99.8 141.7
3150 96.3 97.3 97.4 103.7 97.6 97.7 99.3 99.9 97.3 104.9 102.1 98.3 100.9 142.5
4000 97.7 98.8 98.0 105.2 97.9 98.4 101.8 101.8 98.9 107.1 103.7 100.0 102.2 144.1
5000 98.0 98.4 99.0 105.3 99.1 100.0 101.4 102.7 100.0 107.9 106.6 103.5 105.8 145.5
6300 100.1 101.0 99.8 107.3 100.4 100.9 102.3 104.1 101.7 110.1 108.3 106.2 109.3 147.7
8000 103.0 103.8 101.7 106.5 101.3 101.1 102.9 105.0 103.2 110.8 109.8 108.1 110.2 149.0
10000 105.9 107.4 104.7 107.0 105.8 103.6 104.9 103.4 110.1 109.3 107.4 106.1 108.2 150.3
12500 109.1 112.5 111.7 108.6 106.6 104.6 104.5 104.8 102.5 108.3 107.4 106.1 108.2 152.9
16000 103.4 106.0 108.2 107.0 106.8 106.3 105.3 104.3 99.8 105.3 104.4 103.7 105.2 151.4
20000 101.2 104.8 103.7 103.6 104.6 103.9 102.0 100.2 104.5 103.3 102.6 103.9 151.1
25000 98.3 100.9 101.3 101.5 103.1 102.4 102.5 101.4 96.1 101.0 101.0 99.2 99.9 151.2
31500 97.3 100.0 100.1 99.9 97.8 98.1 97.5 96.9 94.2 98.5 96.8 96.9 151.3
40000 89.5 94.1 93.7 94.4 95.2 94.9 94.2 94.0 91.6 96.3 95.8 93.4 93.6 151.3
50000 85.8 90.9 90.7 91.1 92.6 89.1 91.4 90.6 89.2 94.0 92.1 86.9 86.6 152.7
63000 81.8 86.8 86.7 87.6 89.6 86.9 87.0 87.1 94.6 89.5 81.1 80.1 155.4
80000 76.9 82.4 83.2 83.6 86.4 85.4 83.3 81.9 77.3 84.8 79.7 71.3 70.3 156.6

QASPL 113.7 116.1 115.6 117.1 114.4 113.7 113.6 114.1 111.7 119.0 118.1 117.0 118.7 163.6
PNLT 120.9 122.2 121.1 127.7 121.2 121.4 122.7 124.1 121.9 130.4 129.1 127.2 129.5
PNLT 120.9 122.2 121.1 127.7 121.2 121.4 123.4 124.1 121.9 130.4 129.1 127.2 129.5
DBA 198.4 203.7 204.3 204.8 207.4 206.6 204.5 203.4 200.6 207.9 203.1 195.4 194.5

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICL = ADH181 TEST DATE = 6-30-82 LOCAL = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 400. FPS
WIND DIR = SB59 WIND VEL = NO PWL AREA = FULL SPHERE TAMB F = 73.00 MIKE HT = 29.35 RELHUM = 82.1 PCT
LBS XNL = RPM XNHR = RPM V8 = 2401.1 FPS AE8 = 19.9 SQ IN
LBS XNL = RPM XNHR = RPM V8 = 2401.1 FPS AE8 = 19.9 SQ IN

70-0514 TAPE = X0514F TEST PT NO = 0514 NC = AE049 CORR FAN SPEED = RPM

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0519 BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 82.0 | 83.1 | 85.1 | 82.9 | 82.5 | 81.3 | 86.2 | 85.1 | 78.3 | 84.2 | 89.0 | 89.5 | 90.9 | 127.2 |
| 63 | 84.5 | 80.5 | 84.5 | 89.6 | 90.6 | 88.8 | 97.1 | 92.1 | 84.3 | 90.6 | 93.2 | 91.7 | 95.1 | 134.3 |
| 80 | 87.4 | 92.5 | 89.7 | 89.5 | 89.1 | 91.0 | 91.9 | 91.5 | 85.7 | 90.8 | 94.4 | 97.4 | 98.0 | 134.0 |
| 100 | 87.5 | 94.5 | 90.3 | 88.8 | 92.9 | 92.3 | 93.6 | 94.8 | 85.8 | 94.8 | 98.0 | 101.4 | 102.8 | 137.1 |
| 125 | 84.4 | 89.4 | 91.7 | 91.9 | 93.0 | 93.4 | 95.3 | 94.7 | 88.9 | 97.0 | 102.6 | 105.8 | 106.2 | 140.0 |
| 160 | 83.8 | 84.3 | 88.8 | 90.1 | 88.9 | 89.3 | 99.4 | 91.6 | 87.3 | 97.9 | 103.3 | 106.4 | 108.1 | 140.8 |
| 200 | 85.3 | 85.9 | 87.6 | 89.8 | 91.6 | 94.5 | 93.9 | 91.1 | 99.4 | 104.6 | 108.5 | 110.2 | 142.3 | |
| 250 | 85.5 | 89.3 | 89.4 | 90.0 | 91.1 | 94.2 | 96.4 | 91.6 | 104.6 | 110.0 | 112.0 | 112.4 | 145.7 | |
| 315 | 84.8 | 88.8 | 89.6 | 96.6 | 91.2 | 93.6 | 96.5 | 96.6 | 105.9 | 110.8 | 113.2 | 113.1 | 146.8 | |
| 400 | 85.6 | 89.7 | 90.2 | 97.2 | 91.8 | 92.4 | 101.6 | 97.2 | 94.4 | 108.0 | 112.1 | 114.1 | 147.8 | |
| 500 | 86.9 | 89.5 | 90.3 | 97.8 | 91.9 | 93.7 | 95.9 | 97.8 | 94.8 | 107.8 | 112.7 | 114.4 | 147.9 | |
| 630 | 86.8 | 90.4 | 91.3 | 99.4 | 91.3 | 93.2 | 95.1 | 96.9 | 98.6 | 108.6 | 111.3 | 113.9 | 147.7 | |
| 800 | 89.6 | 91.4 | 93.2 | 101.0 | 93.6 | 95.5 | 97.1 | 100.5 | 97.2 | 108.5 | 110.7 | 112.3 | 146.8 | |
| 1000 | 93.3 | 94.1 | 94.8 | 100.9 | 95.0 | 96.6 | 99.0 | 100.6 | 97.6 | 108.2 | 109.3 | 110.7 | 145.9 | |
| 1250 | 90.0 | 96.0 | 96.3 | 101.9 | 96.7 | 97.8 | 99.9 | 101.8 | 98.7 | 106.5 | 107.6 | 109.3 | 145.5 | |
| 1600 | 91.4 | 94.3 | 94.9 | 102.2 | 97.3 | 98.4 | 100.8 | 101.8 | 98.7 | 106.5 | 107.6 | 109.3 | 145.1 | |
| 2000 | 91.5 | 94.4 | 95.6 | 102.7 | 96.1 | 98.2 | 99.9 | 102.7 | 98.9 | 106.9 | 107.4 | 108.7 | 145.1 | |
| 2500 | 91.6 | 95.3 | 96.1 | 102.7 | 97.5 | 99.1 | 101.1 | 103.2 | 99.3 | 107.8 | 106.8 | 108.4 | 145.2 | |
| 3150 | 92.4 | 95.7 | 96.2 | 103.5 | 97.8 | 99.6 | 102.5 | 100.2 | 100.1 | 107.8 | 106.9 | 108.8 | 145.8 | |
| 4000 | 91.5 | 95.1 | 96.3 | 103.5 | 97.9 | 99.3 | 102.0 | 105.0 | 99.9 | 107.4 | 106.1 | 108.9 | 145.9 | |
| 5000 | 93.1 | 96.8 | 97.7 | 104.4 | 98.4 | 100.3 | 102.7 | 105.5 | 101.0 | 109.4 | 110.7 | 109.8 | 147.5 | |
| 6300 | 96.9 | 101.0 | 100.5 | 104.5 | 99.2 | 100.4 | 103.0 | 106.4 | 101.9 | 108.7 | 110.3 | 109.8 | 147.9 | |
| 8000 | 99.6 | 104.2 | 104.6 | 100.1 | 101.2 | 102.9 | 106.2 | 101.7 | 109.0 | 109.5 | 108.3 | 105.6 | 148.3 | |
| 10000 | 99.8 | 105.2 | 107.5 | 104.8 | 104.0 | 103.3 | 103.5 | 105.2 | 102.4 | 107.7 | 108.2 | 107.9 | 149.0 | |
| 12500 | 96.2 | 100.9 | 104.7 | 103.0 | 104.5 | 103.5 | 104.2 | 100.8 | 105.7 | 105.8 | 102.8 | 104.4 | 148.4 | |
| 16000 | 94.8 | 99.2 | 100.7 | 103.6 | 104.3 | 102.9 | 103.0 | 98.5 | 103.3 | 104.0 | 102.6 | 100.6 | 148.0 | |
| 20000 | 93.4 | 97.3 | 99.6 | 98.7 | 100.5 | 101.8 | 100.7 | 96.3 | 100.9 | 102.5 | 100.7 | 98.4 | 147.8 | |
| 25000 | 90.3 | 95.1 | 97.6 | 97.2 | 99.1 | 100.4 | 100.8 | 99.9 | 95.1 | 100.3 | 100.4 | 99.2 | 146.7 | |
| 31500 | 84.3 | 90.5 | 92.8 | 92.7 | 95.0 | 96.1 | 95.8 | 90.8 | 96.8 | 97.2 | 94.9 | 89.2 | 147.5 | |
| 40000 | 81.0 | 88.9 | 90.9 | 90.3 | 92.7 | 94.1 | 93.7 | 93.3 | 89.2 | 95.7 | 96.1 | 92.4 | 149.7 | |
| 50000 | 80.0 | 86.4 | 88.7 | 89.2 | 91.4 | 91.9 | 91.1 | 90.9 | 87.9 | 94.5 | 94.9 | 90.8 | 152.3 | |
| 63000 | 76.4 | 83.0 | 86.5 | 87.4 | 88.0 | 89.4 | 87.3 | 89.1 | 85.7 | 92.9 | 93.8 | 88.4 | 155.5 | |
| 80000 | 70.7 | 80.0 | 84.3 | 84.4 | 83.7 | 86.1 | 83.4 | 84.6 | 83.5 | 89.7 | 91.9 | 84.3 | 159.2 | |
| QASPL | 107.2 | 111.7 | 113.1 | 115.3 | 112.7 | 113.5 | 114.8 | 116.2 | 112.3 | 120.6 | 122.6 | 124.0 | 123.1 | 164.2 |
| PWL | 118.4 | 122.7 | 123.0 | 127.6 | 122.5 | 123.9 | 126.6 | 124.2 | 132.8 | 134.4 | 135.0 | 133.4 | | |
| PNLT | 119.6 | 123.3 | 123.0 | 127.6 | 122.5 | 123.9 | 126.6 | 124.2 | 132.8 | 134.4 | 135.0 | 133.4 | | |
| DBA | 105.3 | 109.6 | 110.3 | 114.5 | 109.4 | 110.6 | 112.8 | 115.2 | 111.2 | 119.6 | 121.0 | 122.1 | 120.8 | |

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICLE = ADH177 TEST DATE = 6-30-82
WIND DIR = SB59 DEG WIND VEL = MPH
PWL AREA = FULL SPHERE EXT DIST = 40.0 FT
EXT AREA = 40.0 FT
MODEL = AX
PAMB HG = 29.30
RELHUM = 69.2 PCT
FLVEL = 0. FPS
CONFIG = 5
TAMB F = 72.00
EXT CONFIG = ARC
MIKE HT =
NBFR =

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0519 X0519F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 80.1 82.9 81.3 86.2 85.1 78.3 84.2 89.0 89.5 90.9 127.2
63 84.5 90.5 89.6 90.6 93.2 91.7 95.1 134.3
80 87.4 92.5 89.7 89.5 91.9 91.5 85.7 90.8 94.4 97.4 98.0 134.0
100 87.5 94.5 90.3 88.8 92.9 92.3 93.6 94.8 98.0 101.4 102.8 137.1
125 84.4 89.4 91.7 91.9 93.0 93.4 95.3 94.7 98.9 102.6 105.8 140.0
160 83.8 84.3 88.8 90.1 88.9 89.3 99.4 91.6 87.3 97.9 103.3 106.4 108.1 140.8
200 85.3 85.9 87.6 89.7 89.8 91.6 94.5 93.9 91.1 99.4 104.6 108.5 110.2 142.3
250 85.5 89.3 89.3 95.4 90.0 91.1 94.2 96.4 91.6 104.6 110.0 112.0 112.4 145.7
315 84.8 88.8 89.6 91.2 91.8 92.4 101.6 97.2 94.4 108.0 112.1 114.1 113.2 147.8
400 85.6 89.7 90.2 97.2 91.8 92.4 101.6 97.2 94.4 108.0 112.1 114.1 113.2 147.8
500 86.9 89.5 90.3 97.8 91.9 93.7 95.9 97.8 94.8 107.8 112.7 114.4 113.0 147.9
600 86.8 90.0 91.4 93.2 95.1 96.9 98.6 95.3 108.6 111.3 113.9 113.4 147.7
800 89.6 91.4 93.2 101.0 93.6 95.5 97.1 100.5 97.2 108.5 110.7 112.3 111.5 146.8
1000 93.3 94.1 94.8 100.9 95.0 96.6 99.0 100.6 97.6 108.2 109.3 110.7 109.9 145.9
1250 90.0 96.0 96.3 101.9 96.7 97.8 99.9 100.9 98.6 107.1 108.5 109.7 109.5 145.5
1600 91.4 94.3 94.9 102.2 97.3 98.4 100.8 101.8 98.7 106.5 107.4 108.6 108.1 145.1
2000 91.5 94.4 95.6 102.7 96.1 98.2 99.9 102.7 98.9 106.9 107.4 108.7 108.0 145.1
2500 91.6 95.3 96.1 102.7 97.5 99.1 101.1 103.2 99.3 107.8 108.4 109.9 109.2 145.2
3150 92.4 95.7 96.2 103.5 97.8 99.6 102.5 104.2 100.1 107.6 107.9 108.8 108.3 145.8
4000 91.5 95.1 96.3 103.5 97.9 99.3 102.0 105.0 99.9 107.4 108.1 108.9 108.2 145.9
5000 93.1 96.8 97.7 104.4 98.4 100.3 102.7 105.5 101.0 109.4 110.7 109.8 107.3 147.5
6300 96.9 101.0 100.5 104.5 99.2 100.4 103.0 106.4 101.9 108.7 110.3 109.8 107.6 147.9
8000 99.6 104.9 104.2 104.6 100.1 101.2 102.9 106.2 101.7 109.3 109.5 108.3 148.3
10000 99.8 105.2 107.5 104.8 104.0 103.3 103.5 105.2 102.4 107.7 108.2 107.9 104.4 149.0
12500 96.2 100.9 104.7 103.0 105.5 104.5 103.5 104.2 100.8 105.7 105.7 105.8 102.8 148.4
16000 98.8 99.2 100.9 100.7 98.5 103.3 103.6 98.5 104.3 104.3 100.6 100.6 148.0
20000 93.4 97.3 99.6 98.7 100.5 102.5 101.8 100.7 96.3 100.9 102.5 100.7 98.4 147.8
25000 90.3 95.1 97.6 97.2 99.1 100.4 100.8 99.9 95.1 100.3 100.4 99.2 94.9 148.7
31500 84.3 90.5 92.7 95.0 96.1 95.8 93.3 90.6 96.8 97.2 94.9 89.2 147.5
40000 81.0 88.9 90.9 90.3 92.7 94.1 93.7 93.3 89.2 95.7 96.1 92.4 86.5 149.7
50000 80.0 86.4 88.7 89.2 91.4 91.9 91.1 90.9 87.9 94.5 94.9 90.8 82.7 152.3
63000 76.4 83.0 86.5 87.4 88.0 89.4 87.3 89.1 85.7 92.9 93.8 88.4 78.6 155.5
80000 70.7 80.0 84.3 84.4 83.7 86.1 83.4 84.6 83.5 89.7 91.9 84.3 72.1 159.2

0ASPL 107.2 111.7 113.1 115.3 112.7 113.5 114.8 116.2 112.3 120.6 122.6 124.0 123.1 164.2
PNLT 118.4 122.7 123.0 122.6 122.5 123.9 126.6 128.6 124.2 132.8 134.4 135.0 133.4
PNLT 119.6 123.3 123.0 127.6 122.5 123.9 126.6 128.6 124.2 132.8 134.4 135.0 133.4
DBA 192.4 201.0 205.1 205.3 204.9 207.1 204.6 205.9 204.3 210.6 212.6 205.5 194.1

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICL = ADH177 TEST DATE = 6-30-82 LOCALAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.30 RELHUM = 69.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR

FMNINI = LBS XNL = RPM XNH = RPM V8 = 2432.5 FPS AE8 = 19.9 SO IN
FMRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2432.5 FPS AE18 = 0. SO IN
RUNPT = 82F-ZER-0519 TAPE = X0519F TEST PT NO = 0519 NC = AE049 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0519 X05191

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 64.7 70.2 71.8 79.6 74.6 75.3 84.3 79.6 76.1 88.6 91.2 90.9 86.7 166.3
63 66.0 70.0 71.9 80.1 74.6 76.6 78.6 80.1 76.4 88.4 91.7 91.2 86.5 166.4
80 65.7 70.5 72.9 81.7 75.9 79.7 80.9 76.9 89.1 90.2 90.7 86.7 166.1
100 68.5 71.9 74.7 83.2 76.3 78.3 79.8 82.7 78.7 89.0 89.5 89.0 84.7 165.3
125 72.0 74.4 76.3 83.0 77.6 79.3 81.6 82.8 79.0 88.5 88.1 87.2 82.8 164.4
160 68.6 76.2 77.6 83.9 79.2 80.4 82.4 82.9 79.9 87.3 87.1 85.9 82.0 163.9
200 69.7 74.2 76.1 84.1 79.6 80.9 83.1 83.7 79.8 86.5 86.0 85.2 80.7 163.6
250 69.5 74.1 76.5 84.4 78.2 80.5 82.0 84.4 79.7 86.6 85.4 84.2 79.5 163.5
315 69.1 74.7 76.7 84.1 79.4 81.1 82.9 84.6 79.9 87.2 84.4 83.3 77.6 163.7
400 69.5 74.6 76.4 84.6 79.4 81.3 84.1 85.3 80.3 86.6 85.0 83.1 76.0 164.3
500 68.1 73.7 76.2 84.3 79.1 80.8 83.2 85.8 79.8 85.9 84.7 82.5 74.8 164.2
630 69.2 75.0 77.2 84.9 79.4 81.5 83.7 86.0 80.6 87.5 86.8 82.7 74.9 166.0
800 72.5 78.8 84.8 80.0 81.4 83.7 86.6 81.1 86.5 85.9 82.1 74.1 166.4
1000 74.7 82.4 83.3 84.6 80.7 82.0 83.5 86.2 80.7 86.5 84.7 79.8 71.0 166.8
1250 74.5 82.4 86.3 84.7 84.5 83.9 84.0 85.1 81.2 84.9 82.9 78.7 68.3 167.5
1600 70.0 77.4 83.1 82.5 85.7 84.9 83.8 79.2 82.3 79.5 75.2 64.3 166.9
2000 67.6 75.2 78.9 80.0 83.6 84.6 82.9 82.3 76.5 79.3 76.9 70.4 59.2 166.5
2500 64.4 72.0 76.8 77.3 80.0 82.2 81.3 79.3 73.4 75.6 73.5 65.7 51.9 166.3
3150 58.0 67.4 72.8 74.3 77.2 78.9 78.9 77.0 70.3 72.6 68.1 59.1 40.1 167.2
4000 45.7 58.1 64.2 66.5 70.1 71.6 70.9 68.7 62.2 64.4 58.7 46.0 19.9 166.0
5000 32.7 48.9 56.1 58.7 62.9 64.8 63.8 61.7 54.4 55.7 47.8 29.7 4.0 168.2
6300 13.9 32.2 41.8 46.8 51.4 52.7 51.1 48.5 41.0 40.3 28.8 4.0 170.8
8000 4.0 18.3 25.8 29.9 32.4 29.2 27.4 17.5 13.9 174.0 177.7

8000 4.0 18.3 25.8 29.9 32.4 29.2 27.4 17.5 13.9 174.0 177.7
10000 4.0 18.3 25.8 29.9 32.4 29.2 27.4 17.5 13.9 174.0 177.7
12500 4.0 18.3 25.8 29.9 32.4 29.2 27.4 17.5 13.9 174.0 177.7
16000 4.0 18.3 25.8 29.9 32.4 29.2 27.4 17.5 13.9 174.0 177.7
20000 4.0 18.3 25.8 29.9 32.4 29.2 27.4 17.5 13.9 174.0 177.7
25000 4.0 18.3 25.8 29.9 32.4 29.2 27.4 17.5 13.9 174.0 177.7
31500 4.0 18.3 25.8 29.9 32.4 29.2 27.4 17.5 13.9 174.0 177.7
40000 4.0 18.3 25.8 29.9 32.4 29.2 27.4 17.5 13.9 174.0 177.7
50000 4.0 18.3 25.8 29.9 32.4 29.2 27.4 17.5 13.9 174.0 177.7
63000 4.0 18.3 25.8 29.9 32.4 29.2 27.4 17.5 13.9 174.0 177.7
80000 4.0 18.3 25.8 29.9 32.4 29.2 27.4 17.5 13.9 174.0 177.7

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QASPL 82.7 89.1 91.9 95.9 93.1 94.1 95.4 96.6 91.8 99.4 99.6 98.6 93.9 182.5
PNL 89.9 97.2 100.9 103.4 103.5 104.6 104.7 104.7 99.6 104.7 103.4 100.3 93.6
PNLT 90.5 97.8 102.0 103.9 104.0 105.1 105.2 104.7 100.1 105.3 103.4 101.3 93.6
DBA 80.7 88.0 91.2 92.8 92.2 92.8 93.0 94.1 89.0 94.1 92.6 89.1 81.7
MODEL AREA = 128.3 SQ CM (19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9
NASA SHOCK CELL/20 EL ANN CV SUPP NGZ SC-5/NAS3-22514

VEHICL = ADH177 TEST DATE = 6-30-82 LOCAL = C41 ANECH CH CONFIG = 5
TAPLHA = SB59 LEA = NO PWL AREA = FULL SPHERE TAMB F = 72.00 MIKE HT = 29.30 RELHUM = 69.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL
FMINI = LBS XNL RPM XNH RPM V8 = 2432.5 FPS AE8 = 19.9 SQ IN
FNRAMB = LBS XNLR RPM XNHR RPM V18 = 2432.5 FPS AE18 = 19.9 SQ IN
TINPT = ZER-0519 TAPE = X05191 TEST PT NG = 0519 NC = AE049 CORR FAN SPEED = RPM

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL B2F-400-0520 X0520C
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|---|---------------------|---------------------------|-------------------|----------------|--------------|------------------|-----------------|-----------|------------|----------|----------|------------|---------|
| PWL | 85.5 | 85.8 | 85.6 | 83.4 | 81.7 | 81.1 | 85.2 | 86.6 | 79.1 | 84.9 | 90.8 | 91.0 | 94.1 |
| 50 | 86.2 | 92.2 | 93.3 | 90.3 | 88.6 | 86.5 | 95.9 | 95.1 | 85.3 | 92.1 | 93.2 | 91.4 | 94.8 |
| 63 | 86.2 | 92.2 | 88.7 | 89.0 | 88.9 | 90.2 | 91.1 | 90.5 | 85.2 | 89.6 | 92.4 | 95.9 | 97.3 |
| 80 | 86.7 | 92.2 | 88.7 | 89.0 | 88.9 | 90.2 | 91.1 | 90.5 | 85.2 | 89.6 | 92.4 | 95.9 | 97.3 |
| 100 | 86.2 | 92.5 | 88.8 | 87.3 | 90.6 | 85.7 | 91.9 | 92.6 | 83.5 | 91.6 | 95.5 | 99.9 | 101.8 |
| 125 | 83.1 | 87.6 | 89.2 | 88.2 | 90.3 | 90.9 | 92.5 | 91.7 | 85.4 | 93.5 | 99.4 | 102.5 | 104.5 |
| 150 | 81.8 | 86.6 | 87.6 | 85.9 | 86.6 | 86.6 | 95.2 | 87.6 | 84.3 | 94.4 | 100.0 | 103.4 | 106.1 |
| 160 | 81.8 | 86.6 | 87.6 | 85.9 | 86.6 | 86.6 | 95.2 | 87.6 | 84.3 | 94.4 | 100.0 | 103.4 | 106.1 |
| 200 | 82.1 | 83.4 | 90.4 | 85.5 | 87.1 | 92.0 | 90.4 | 87.4 | 94.7 | 99.8 | 105.3 | 107.7 | 139.0 |
| 250 | 80.8 | 84.3 | 84.1 | 90.6 | 85.7 | 87.6 | 89.7 | 91.9 | 87.6 | 99.4 | 105.8 | 108.5 | 141.9 |
| 315 | 80.3 | 84.6 | 85.3 | 91.9 | 87.2 | 88.1 | 91.7 | 91.9 | 89.1 | 101.4 | 106.0 | 109.0 | 142.3 |
| 400 | 80.9 | 84.4 | 85.2 | 92.7 | 86.6 | 87.9 | 95.1 | 92.2 | 89.7 | 102.7 | 107.1 | 109.6 | 142.8 |
| 500 | 81.7 | 84.0 | 85.3 | 93.3 | 87.1 | 88.2 | 90.6 | 92.8 | 90.3 | 103.6 | 107.5 | 106.4 | 142.3 |
| 630 | 81.0 | 84.5 | 86.6 | 94.6 | 88.2 | 89.3 | 91.9 | 94.1 | 90.3 | 104.1 | 106.5 | 106.4 | 141.3 |
| 800 | 83.4 | 84.9 | 87.0 | 95.7 | 88.8 | 90.2 | 92.6 | 95.7 | 93.0 | 104.5 | 105.7 | 103.3 | 140.5 |
| 1000 | 85.5 | 85.8 | 86.4 | 89.5 | 91.6 | 93.7 | 96.1 | 93.6 | 93.6 | 103.9 | 104.3 | 100.7 | 139.6 |
| 1250 | 84.3 | 86.8 | 89.3 | 97.6 | 90.4 | 92.1 | 94.4 | 96.9 | 93.8 | 103.9 | 103.3 | 91.2 | 139.4 |
| 1500 | 86.4 | 87.8 | 90.2 | 98.2 | 92.3 | 93.7 | 96.0 | 97.6 | 95.2 | 103.5 | 103.1 | 94.8 | 139.5 |
| 2000 | 86.8 | 88.2 | 90.4 | 99.7 | 91.8 | 93.7 | 95.7 | 99.0 | 95.9 | 104.4 | 101.7 | 94.0 | 139.9 |
| 2500 | 87.6 | 89.6 | 91.1 | 99.7 | 93.0 | 94.6 | 97.1 | 99.4 | 96.0 | 105.1 | 100.6 | 93.2 | 140.3 |
| 3150 | 87.9 | 90.2 | 91.7 | 100.2 | 93.8 | 95.6 | 98.3 | 100.5 | 97.1 | 104.6 | 101.2 | 93.8 | 140.7 |
| 4000 | 88.5 | 89.4 | 92.8 | 100.8 | 94.4 | 95.8 | 98.0 | 101.5 | 96.9 | 104.3 | 100.6 | 94.2 | 140.9 |
| 5000 | 91.8 | 92.8 | 93.9 | 101.9 | 95.1 | 97.0 | 99.9 | 102.8 | 98.7 | 106.3 | 102.9 | 96.0 | 142.8 |
| 6300 | 97.6 | 98.4 | 98.0 | 103.0 | 96.9 | 97.4 | 100.9 | 103.8 | 99.6 | 107.4 | 104.8 | 99.1 | 144.5 |
| 8000 | 101.0 | 103.6 | 103.1 | 104.0 | 98.3 | 98.9 | 100.8 | 103.9 | 100.3 | 108.4 | 106.2 | 99.7 | 146.2 |
| 10000 | 99.9 | 104.1 | 106.6 | 104.7 | 103.7 | 101.7 | 101.9 | 104.1 | 101.7 | 109.3 | 106.8 | 102.3 | 148.2 |
| 12500 | 97.3 | 100.7 | 104.0 | 103.5 | 105.1 | 104.1 | 102.1 | 103.5 | 101.1 | 106.7 | 102.1 | 96.6 | 148.0 |
| 15000 | 95.8 | 99.8 | 100.9 | 103.5 | 103.3 | 103.3 | 103.4 | 99.2 | 104.0 | 103.5 | 99.1 | 94.1 | 147.8 |
| 20000 | 93.5 | 96.5 | 98.4 | 99.0 | 100.3 | 101.6 | 102.4 | 101.3 | 96.8 | 101.6 | 97.0 | 92.5 | 147.5 |
| 25000 | 90.8 | 94.1 | 96.4 | 97.3 | 99.3 | 99.6 | 101.0 | 100.0 | 95.4 | 100.0 | 98.7 | 94.3 | 148.2 |
| 31500 | 84.0 | 88.9 | 90.4 | 92.4 | 93.2 | 95.3 | 95.1 | 90.9 | 95.3 | 94.4 | 89.7 | 82.2 | 146.3 |
| 40000 | 80.4 | 86.1 | 88.6 | 90.1 | 91.6 | 92.2 | 93.0 | 92.4 | 88.4 | 92.8 | 92.4 | 86.0 | 147.8 |
| 50000 | 77.4 | 82.6 | 85.5 | 87.7 | 88.8 | 89.3 | 89.7 | 89.2 | 86.4 | 90.9 | 88.9 | 82.2 | 149.3 |
| 63000 | 73.5 | 79.9 | 82.5 | 85.1 | 85.7 | 87.1 | 86.3 | 84.2 | 80.5 | 86.5 | 78.1 | 68.8 | 152.4 |
| 80000 | 67.5 | 77.9 | 80.7 | 82.8 | 81.8 | 83.2 | 81.8 | 82.8 | 81.6 | 88.6 | 82.8 | 72.4 | 156.1 |
| QASPL | 106.9 | 109.9 | 111.5 | 113.4 | 111.4 | 111.4 | 112.5 | 113.9 | 110.4 | 118.3 | 118.1 | 117.6 | 161.4 |
| PWL | 117.3 | 119.7 | 120.4 | 124.8 | 119.4 | 120.2 | 123.0 | 125.3 | 121.5 | 130.0 | 128.8 | 125.6 | 123.1 |
| PWL | 104.4 | 106.9 | 108.0 | 111.9 | 106.5 | 107.1 | 109.3 | 112.0 | 108.5 | 117.0 | 115.7 | 113.1 | 110.0 |
| NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514 | | | | | | | | | | | | | |
| VEHICLE = ADH180 | TEST DATE = 6-30-82 | LOCAL AREA = CAL ANECH CH | CONFIG = 5 | TAMB F = 73.00 | ARC = | MIKE HT = | PAMB HG = 29.35 | RELHUM = | 400. FPS | FLVEL = | 400. FPS | WIND DIR = | SB59 |
| LEGA = | WIND VEL = | MPH | EXT DIST = | 40.0 FT | EXT CONFIG = | ARC | MIKE HT = | PAMB HG = | 29.35 | RELHUM = | 40.1 PCT | WIND DIR = | SB59 |
| FMAMB = | LBS XNL | RPM | XNH | RPM | V8 | FPS | AE8 | = | 19.9 SQ IN | = | 0. SQ IN | FMAMB = | LBS XNL |
| FMAMB = | LBS XNL | RPM | XNH | RPM | V8 | FPS | AE8 | = | 19.9 SQ IN | = | 0. SQ IN | FMAMB = | LBS XNL |
| RUNPT = B2F-400-0520 | TAPE | = X0520C | TEST PT NO = 0520 | NC | = AE049 | CORR FAN SPEED = | RPM | | | | | | |

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IDENTIFICATION - 82F-400-0520 X0520F

ANGLES MEASURED FROM INLET, DEGREES

PWL

FREQ

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AGE PRINTING SYSTEM- P1108-02

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| | | | |
|---|--|-------|------------------------------|
| MODEL/FULL SCALE FAC - IN=1.000, CALG=1.000 | FREE JET VEL (FPS) = 400.00, DIAM (IN) = | 48.00 | REFR CORR YES, TURB CORR YES |
|---|--|-------|------------------------------|

[illegible]

00-0520 TAPE = X0520F TEST PT NO = 0520 NC = AE049 CORR FAN SPEED = RPM

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. FREQ

| FRQ | 50 | 63 | 80 | 100 | 125 | 160 | 200 | 250 | 315 | 400 | 500 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 2500 | 3150 | 4000 | 5000 | 6300 | 8000 | 10000 | |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|
| PWL | 67.5 | 68.0 | 69.0 | 68.7 | 70.9 | 72.8 | 73.4 | 73.7 | 73.4 | 73.9 | 74.2 | 74.6 | 76.4 | 78.7 | 80.2 | 81.6 | 82.1 | 82.2 | 82.9 | 83.4 | 83.6 | 84.1 | 84.8 | 85.9 | 87.9 |
| | 72.1 | 71.8 | 71.6 | 72.5 | 76.0 | 73.4 | 76.2 | 77.5 | 77.3 | 78.6 | 77.3 | 77.7 | 79.7 | 80.2 | 80.2 | 81.6 | 82.1 | 82.2 | 82.9 | 83.4 | 83.6 | 84.1 | 84.8 | 85.9 | 87.9 |
| | 72.4 | 72.1 | 72.4 | 72.8 | 75.1 | 73.4 | 76.2 | 77.5 | 77.3 | 78.6 | 77.3 | 77.7 | 79.7 | 80.2 | 80.2 | 81.6 | 82.1 | 82.2 | 82.9 | 83.4 | 83.6 | 84.1 | 84.8 | 85.9 | 87.9 |
| | 76.0 | 76.7 | 79.5 | 81.0 | 82.6 | 84.6 | 83.6 | 85.9 | 85.9 | 86.4 | 79.9 | 80.5 | 87.0 | 87.8 | 88.5 | 87.4 | 87.4 | 87.8 | 88.9 | 88.9 | 89.3 | 89.3 | 89.3 | 89.3 | 89.3 |
| | 71.3 | 72.0 | 73.2 | 73.9 | 75.4 | 77.2 | 77.5 | 77.2 | 78.0 | 79.4 | 79.8 | 80.9 | 82.6 | 83.6 | 83.0 | 82.7 | 83.0 | 83.6 | 84.3 | 84.6 | 84.7 | 84.7 | 84.7 | 84.7 | 84.7 |
| | 71.1 | 71.4 | 72.6 | 73.5 | 75.0 | 76.4 | 77.2 | 77.7 | 79.1 | 80.7 | 80.9 | 82.6 | 83.6 | 84.5 | 84.5 | 84.2 | 84.6 | 85.3 | 85.3 | 85.3 | 85.3 | 85.3 | 85.3 | 85.3 | 85.3 |
| | 76.5 | 72.1 | 73.9 | 74.7 | 76.5 | 77.4 | 77.8 | 79.3 | 79.7 | 81.1 | 82.6 | 83.6 | 84.6 | 85.3 | 84.5 | 84.2 | 84.6 | 85.3 | 85.3 | 85.3 | 85.3 | 85.3 | 85.3 | 85.3 | 85.3 |
| | 71.8 | 72.5 | 74.3 | 74.7 | 76.5 | 77.4 | 77.8 | 79.3 | 79.7 | 81.1 | 82.6 | 83.6 | 84.6 | 85.3 | 84.5 | 84.2 | 84.6 | 85.3 | 85.3 | 85.3 | 85.3 | 85.3 | 85.3 | 85.3 | 85.3 |
| | 68.9 | 69.8 | 73.7 | 74.7 | 76.5 | 77.4 | 77.8 | 79.3 | 79.7 | 81.1 | 82.6 | 83.6 | 84.6 | 85.3 | 84.5 | 84.2 | 84.6 | 85.3 | 85.3 | 85.3 | 85.3 | 85.3 | 85.3 | 85.3 | 85.3 |
| | 80.4 | 81.8 | 83.9 | 83.9 | 83.6 | 84.1 | 84.1 | 84.1 | 84.1 | 84.1 | 85.7 | 86.6 | 86.6 | 86.6 | 86.6 | 86.6 | 86.6 | 86.6 | 86.6 | 86.6 | 86.6 | 86.6 | 86.6 | 86.6 | 86.6 |
| | 82.5 | 82.5 | 83.8 | 83.4 | 83.9 | 84.1 | 84.1 | 84.1 | 84.1 | 84.1 | 85.7 | 86.6 | 86.6 | 86.6 | 86.6 | 86.6 | 86.6 | 86.6 | 86.6 | 86.6 | 86.6 | 86.6 | 86.6 | 86.6 | 86.6 |
| | 82.7 | 81.9 | 81.8 | 80.9 | 79.9 | 78.4 | 79.9 | 79.9 | 79.9 | 79.9 | 80.9 | 80.9 | 82.6 | 83.6 | 83.6 | 84.5 | 84.5 | 84.5 | 84.5 | 84.5 | 84.5 | 84.5 | 84.5 | 84.5 | 84.5 |
| | 76.8 | 78.3 | 81.8 | 80.9 | 79.9 | 78.4 | 79.9 | 79.9 | 79.9 | 79.9 | 80.9 | 80.9 | 82.6 | 83.6 | 83.6 | 84.5 | 84.5 | 84.5 | 84.5 | 84.5 | 84.5 | 84.5 | 84.5 | 84.5 | 84.5 |
| | 76.8 | 78.3 | 81.8 | 80.9 | 79.9 | 78.4 | 79.9 | 79.9 | 79.9 | 79.9 | 80.9 | 80.9 | 82.6 | 83.6 | 83.6 | 84.5 | 84.5 | 84.5 | 84.5 | 84.5 | 84.5 | 84.5 | 84.5 | 84.5 | 84.5 |
| | 76.8 | 78.3 | 81.8 | 80.9 | 79.9 | 78.4 | 79.9 | 79.9 | 79.9 | 79.9 | 80.9 | 80.9 | 82.6 | 83.6 | 83.6 | 84.5 | 84.5 | 84.5 | 84.5 | 84.5 | 84.5 | 84.5 | 84.5 | 84.5 | 84.5 |

ORIGINAL PAGE IS
OF POOR QUALITY

[illegible]

| | | | | | | | | | | | | | | |
|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|
| ASPL | 88.9 | 92.9 | 94.8 | 97.9 | 95.3 | 94.3 | 94.2 | 94.2 | 91.5 | 97.2 | 94.4 | 90.5 | 87.0 | 182.5 |
| PNLT | 97.7 | 102.2 | 105.3 | 107.3 | 106.1 | 105.4 | 105.2 | 104.4 | 100.7 | 104.8 | 101.4 | 95.6 | 90.7 | |
| DBA | 88.5 | 92.9 | 95.0 | 96.5 | 95.5 | 94.4 | 93.7 | 93.4 | 90.5 | 95.0 | 91.2 | 85.8 | 81.3 | |

```
MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN)
SCALED AREA = 9032.2 SQ CM ( 1400.0 SQ IN)
DIAMETER RATIO = 8.392
FREQ SHIFT = -9
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NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

| | | | | | | | | | | | | | | | | | |
|----------|---|--------|-----------|---|---------|----------|---|--------------|--------|---|-------|----------|---|-----------|------------|---|----------|
| VEHICL | = | ADH180 | TEST DATE | = | 6-30-82 | LOCAT | = | C41 ANECH CH | CONFIG | = | 5 | MODEL | = | AX | FLVEL | = | 400. FPS |
| IAPLHA | = | SB59 | LEGA | = | NO | PWL AREA | = | FULL SPHERE | TAMB F | = | 73.00 | PAMB HG | = | 29.35 | RELHUM | = | 82.1 PCT |
| WIND DIR | = | | DEG | | | WIND VEL | = | | MPH | | | EXT DIST | = | 2400.0 FT | EXT CONFIG | = | SL |
| | | | | | | | | | | | | MIKE HT | = | | | | NBFR |

| | | | | | | | | | | | | | | | |
|-------|---|-----|------|---|-----|------|---|-----|-----|---|-----|------|---|------|-------|
| FMN1 | = | LBS | XNL | = | RPM | XNH | = | RPM | V8 | = | FPS | AE8 | = | 19.9 | SO IN |
| FMAMB | = | LBS | XNLR | = | RPM | XNHR | = | RPM | V18 | = | FPS | AE18 | = | 0. | SO IN |

RUNPT = 82F-400-0520 TAPE = X05201 TEST PT NO = 0520 NC = AE049 CORR FAN SPEED = RPM

08/12/82 16.168 PAGE 1

BACKGROUNND X79F400B0400

FREQ

| FREQ | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | PWL |
|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|
| 50 | 77.8 | 82.3 | 84.6 | 78.9 | 82.5 | 78.1 | 87.0 | 84.6 | 74.6 | 79.4 | 87.0 | 86.7 | 88.1 | 125.7 |
| 55 | 81.2 | 91.5 | 93.5 | 87.1 | 91.9 | 85.8 | 97.4 | 93.8 | 81.3 | 87.3 | 93.7 | 91.4 | 93.8 | 134.2 |
| 60 | 82.4 | 87.7 | 85.0 | 84.8 | 84.4 | 86.5 | 87.9 | 87.0 | 81.0 | 86.6 | 89.7 | 92.6 | 93.0 | 129.4 |
| 65 | 83.0 | 89.2 | 88.0 | 87.7 | 88.1 | 87.8 | 89.7 | 89.8 | 81.3 | 89.5 | 96.7 | 97.6 | 97.6 | 132.3 |
| 70 | 79.4 | 84.6 | 86.4 | 87.7 | 84.7 | 84.8 | 93.2 | 87.3 | 82.6 | 92.4 | 98.0 | 102.2 | 102.1 | 135.0 |
| 75 | 79.8 | 80.0 | 84.8 | 86.1 | 84.7 | 86.7 | 89.1 | 87.3 | 82.6 | 92.4 | 98.0 | 102.2 | 102.1 | 135.0 |
| 80 | 80.3 | 81.9 | 84.1 | 89.9 | 85.3 | 87.1 | 90.0 | 89.4 | 86.6 | 94.4 | 99.3 | 102.5 | 103.4 | 136.5 |
| 85 | 80.8 | 85.1 | 84.8 | 90.4 | 85.5 | 87.7 | 89.1 | 89.5 | 91.4 | 87.1 | 99.1 | 103.8 | 106.2 | 139.8 |
| 90 | 80.8 | 85.3 | 86.1 | 92.4 | 87.7 | 89.1 | 92.5 | 92.1 | 89.1 | 100.1 | 104.9 | 106.5 | 106.6 | 140.4 |
| 95 | 81.4 | 85.2 | 86.2 | 92.7 | 88.3 | 88.7 | 96.3 | 93.5 | 89.2 | 100.8 | 104.6 | 107.3 | 108.2 | 141.0 |
| 100 | 81.7 | 85.2 | 86.5 | 93.0 | 89.2 | 89.5 | 93.5 | 90.0 | 101.3 | 104.2 | 105.9 | 104.8 | 140.1 | |
| 105 | 81.8 | 86.0 | 87.6 | 94.4 | 89.2 | 90.6 | 92.4 | 94.6 | 90.1 | 101.9 | 103.3 | 103.7 | 139.4 | |
| 110 | 84.1 | 89.9 | 84.1 | 89.9 | 85.3 | 87.1 | 90.0 | 89.4 | 86.6 | 94.4 | 99.3 | 102.5 | 103.4 | 136.5 |
| 115 | 80.8 | 85.1 | 84.8 | 90.4 | 85.5 | 87.7 | 89.1 | 89.5 | 91.4 | 87.1 | 99.1 | 103.8 | 106.2 | 139.8 |
| 120 | 80.8 | 85.3 | 86.1 | 92.4 | 87.7 | 89.1 | 92.5 | 92.1 | 89.1 | 100.1 | 104.9 | 106.5 | 106.6 | 140.4 |
| 125 | 79.4 | 84.6 | 86.4 | 87.7 | 84.7 | 84.8 | 93.2 | 87.3 | 82.6 | 92.4 | 98.0 | 102.2 | 102.1 | 135.0 |
| 130 | 79.8 | 80.0 | 84.8 | 86.1 | 84.7 | 86.7 | 89.1 | 87.3 | 82.6 | 92.4 | 98.0 | 102.2 | 102.1 | 135.0 |
| 135 | 80.3 | 81.9 | 84.1 | 89.9 | 85.3 | 87.1 | 90.0 | 89.4 | 86.6 | 94.4 | 99.3 | 102.5 | 103.4 | 136.5 |
| 140 | 80.8 | 85.1 | 84.8 | 90.4 | 85.5 | 87.7 | 89.1 | 89.5 | 91.4 | 87.1 | 99.1 | 103.8 | 106.2 | 139.8 |
| 145 | 80.8 | 85.3 | 86.1 | 92.4 | 87.7 | 89.1 | 92.5 | 92.1 | 89.1 | 100.1 | 104.9 | 106.5 | 106.6 | 140.4 |
| 150 | 81.4 | 85.2 | 86.2 | 92.7 | 88.3 | 88.7 | 96.3 | 93.5 | 89.2 | 100.8 | 104.6 | 107.3 | 108.2 | 141.0 |
| 155 | 81.7 | 85.2 | 86.5 | 93.0 | 89.2 | 89.5 | 93.5 | 90.0 | 101.3 | 104.2 | 105.9 | 104.8 | 140.1 | |
| 160 | 81.8 | 86.0 | 87.6 | 94.4 | 89.2 | 90.6 | 92.4 | 94.6 | 90.1 | 101.9 | 103.3 | 103.7 | 139.4 | |
| 165 | 84.1 | 89.9 | 84.1 | 89.9 | 85.3 | 87.1 | 90.0 | 89.4 | 86.6 | 94.4 | 99.3 | 102.5 | 103.4 | 136.5 |
| 170 | 80.8 | 85.1 | 84.8 | 90.4 | 85.5 | 87.7 | 89.1 | 89.5 | 91.4 | 87.1 | 99.1 | 103.8 | 106.2 | 139.8 |
| 175 | 80.8 | 85.3 | 86.1 | 92.4 | 87.7 | 89.1 | 92.5 | 92.1 | 89.1 | 100.1 | 104.9 | 106.5 | 106.6 | 140.4 |
| 180 | 81.4 | 85.2 | 86.2 | 92.7 | 88.3 | 88.7 | 96.3 | 93.5 | 89.2 | 100.8 | 104.6 | 107.3 | 108.2 | 141.0 |
| 185 | 81.7 | 85.2 | 86.5 | 93.0 | 89.2 | 89.5 | 93.5 | 90.0 | 101.3 | 104.2 | 10 | | | |

FLIGHT TRANSFORMED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0541 X0541F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PWL | 77.8 | 77.8 | 82.3 | 84.6 | 78.9 | 82.5 | 78.1 | 87.0 | 84.6 | 74.6 | 79.4 | 87.0 | 86.7 |
| 50 | 77.8 | 77.8 | 82.3 | 84.6 | 78.9 | 82.5 | 78.1 | 87.0 | 84.6 | 74.6 | 79.4 | 87.0 | 86.7 |
| 63 | 81.2 | 91.5 | 87.1 | 91.9 | 85.8 | 97.4 | 93.8 | 81.3 | 93.7 | 91.4 | 93.8 | 134.2 | |
| 80 | 82.4 | 87.7 | 85.0 | 84.8 | 86.5 | 87.9 | 87.0 | 81.0 | 86.6 | 89.7 | 92.6 | 93.0 | 129.4 |
| 100 | 83.0 | 89.2 | 85.0 | 84.8 | 86.1 | 87.5 | 88.9 | 89.8 | 81.3 | 90.8 | 93.5 | 96.7 | 132.3 |
| 125 | 79.4 | 84.6 | 86.4 | 87.7 | 87.8 | 88.7 | 90.3 | 89.7 | 84.7 | 92.2 | 97.1 | 99.5 | 134.4 |
| 150 | 79.8 | 80.0 | 84.8 | 86.1 | 84.7 | 84.8 | 93.2 | 87.3 | 82.6 | 92.4 | 98.0 | 102.2 | 135.0 |
| 200 | 80.3 | 81.9 | 84.1 | 89.9 | 85.3 | 87.1 | 90.0 | 89.4 | 86.6 | 94.4 | 99.3 | 102.5 | 136.5 |
| 250 | 80.8 | 85.1 | 84.8 | 90.4 | 85.5 | 87.1 | 89.5 | 91.4 | 87.1 | 99.1 | 103.8 | 106.2 | 139.8 |
| 315 | 80.8 | 86.1 | 85.3 | 89.1 | 92.4 | 89.1 | 92.5 | 92.1 | 89.1 | 100.1 | 104.0 | 106.6 | 140.4 |
| 400 | 81.4 | 85.2 | 86.2 | 92.7 | 88.3 | 88.7 | 96.3 | 93.5 | 89.2 | 100.8 | 104.6 | 107.3 | 141.0 |
| 500 | 81.7 | 85.2 | 86.5 | 93.0 | 87.9 | 91.9 | 93.5 | 90.0 | 101.3 | 104.2 | 106.9 | 104.8 | 140.1 |
| 630 | 81.8 | 86.0 | 87.6 | 94.4 | 89.2 | 90.6 | 92.4 | 94.6 | 101.9 | 103.3 | 103.7 | 103.1 | 139.4 |
| 800 | 84.1 | 86.9 | 89.0 | 95.8 | 92.0 | 93.6 | 95.7 | 92.8 | 101.8 | 103.2 | 101.3 | 100.5 | 138.9 |
| 1000 | 87.3 | 89.1 | 89.8 | 95.9 | 90.7 | 92.6 | 94.5 | 96.4 | 101.4 | 101.8 | 100.0 | 97.9 | 138.4 |
| 1250 | 85.0 | 92.0 | 91.1 | 95.9 | 91.2 | 92.3 | 95.2 | 96.4 | 101.1 | 101.3 | 99.2 | 97.5 | 138.3 |
| 1600 | 87.1 | 91.0 | 90.9 | 97.0 | 93.0 | 94.4 | 96.0 | 97.1 | 98.4 | 100.5 | 101.1 | 98.8 | 138.6 |
| 2000 | 86.5 | 90.9 | 91.6 | 97.7 | 92.8 | 93.9 | 95.7 | 98.5 | 99.6 | 100.9 | 99.0 | 97.5 | 138.8 |
| 2500 | 86.6 | 92.1 | 92.1 | 98.2 | 93.8 | 95.6 | 96.8 | 99.2 | 94.8 | 102.3 | 100.8 | 99.7 | 139.7 |
| 3150 | 87.9 | 92.9 | 93.0 | 100.0 | 94.3 | 96.4 | 98.3 | 100.5 | 96.6 | 103.4 | 102.4 | 101.1 | 141.1 |
| 4000 | 88.0 | 90.6 | 93.0 | 99.8 | 94.4 | 96.3 | 98.5 | 101.8 | 96.4 | 103.4 | 102.2 | 101.8 | 141.8 |
| 5000 | 89.3 | 92.8 | 94.2 | 101.2 | 95.9 | 97.8 | 100.0 | 103.3 | 98.0 | 106.1 | 106.2 | 106.3 | 144.2 |
| 6300 | 89.4 | 92.7 | 94.3 | 102.0 | 96.2 | 97.9 | 101.5 | 104.9 | 99.1 | 106.7 | 107.3 | 107.8 | 145.5 |
| 8000 | 89.3 | 93.9 | 95.0 | 101.6 | 95.9 | 98.4 | 100.6 | 104.2 | 98.4 | 107.5 | 107.5 | 105.6 | 145.7 |
| 10000 | 89.3 | 94.2 | 95.0 | 100.5 | 95.8 | 98.3 | 100.3 | 102.7 | 97.4 | 106.5 | 106.7 | 106.2 | 145.4 |
| 12500 | 91.7 | 95.6 | 96.9 | 98.7 | 95.2 | 97.7 | 99.3 | 101.2 | 96.3 | 103.7 | 104.7 | 104.3 | 144.6 |
| 16000 | 90.5 | 95.4 | 96.6 | 97.2 | 96.3 | 96.6 | 98.1 | 100.0 | 95.0 | 100.8 | 102.8 | 101.6 | 144.3 |
| 20000 | 87.6 | 91.8 | 93.9 | 95.2 | 95.7 | 97.0 | 97.1 | 97.7 | 92.8 | 98.6 | 101.2 | 99.5 | 144.3 |
| 25000 | 84.3 | 88.6 | 91.1 | 93.7 | 94.3 | 96.2 | 96.1 | 96.4 | 91.4 | 97.3 | 98.9 | 97.7 | 145.1 |
| 31500 | 78.5 | 83.8 | 86.0 | 86.7 | 89.0 | 91.1 | 91.1 | 91.9 | 87.3 | 93.6 | 95.5 | 92.2 | 143.6 |
| 40000 | 71.5 | 76.9 | 80.0 | 85.2 | 83.9 | 86.1 | 85.9 | 86.7 | 82.9 | 89.8 | 92.4 | 87.8 | 147.7 |
| 50000 | 66.9 | 73.3 | 76.3 | 82.7 | 80.2 | 82.9 | 82.1 | 84.1 | 80.7 | 88.1 | 91.5 | 85.4 | 150.9 |
| 63000 | 59.7 | 69.0 | 71.3 | 79.1 | 74.9 | 78.8 | 77.7 | 78.9 | 76.0 | 84.7 | 88.4 | 83.1 | 154.1 |
| 80000 | 100.9 | 105.3 | 106.4 | 111.3 | 107.3 | 108.9 | 111.1 | 113.2 | 108.2 | 116.4 | 117.4 | 117.7 | 159.5 |
| QASPL | 100.9 | 105.3 | 106.4 | 111.3 | 107.3 | 108.9 | 111.1 | 113.2 | 108.2 | 116.4 | 117.4 | 117.7 | 159.5 |
| PWL | 112.4 | 116.8 | 117.4 | 123.7 | 118.9 | 120.6 | 123.2 | 125.6 | 120.5 | 128.7 | 129.4 | 129.6 | 128.4 |
| PMLT | 112.4 | 117.3 | 117.4 | 123.7 | 118.9 | 120.6 | 123.8 | 125.6 | 120.5 | 128.7 | 129.4 | 129.6 | 128.4 |
| DBA | 182.1 | 190.3 | 192.8 | 200.2 | 196.5 | 200.0 | 199.0 | 200.4 | 197.3 | 205.7 | 209.3 | 203.9 | 193.1 |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICL = ADH173 TEST DATE = 6-30-82 LOCAL = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.30 RELHUM = 69.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBRF =
FMINI = LBS XNL RPM XNH RPM XNHR = V8 RPM V8 = 2137.1 FPS AEB = 19.9 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = V8 RPM V8 = 2137.1 FPS AEB = 19.9 SQ IN
RUMPT = 82F-ZER-0541 TAPE = X0541F TEST PT NO = 0541 NC = AE049 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0541 X05411

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|---|----------------|------|------|------|------|------|-------|-------|------|-------|------|------|-------|
| 50 | 60.4 | 65.7 | 67.8 | 75.1 | 71.1 | 71.6 | 79.1 | 75.8 | 70.8 | 81.3 | 89.7 | 84.2 | 79.7 |
| 63 | 60.7 | 65.8 | 68.1 | 75.4 | 72.4 | 72.4 | 74.6 | 75.9 | 71.6 | 81.9 | 83.2 | 82.7 | 78.2 |
| 80 | 60.7 | 66.5 | 69.1 | 76.7 | 71.9 | 73.4 | 75.2 | 76.9 | 71.6 | 82.4 | 82.2 | 80.4 | 76.4 |
| 100 | 63.0 | 67.4 | 70.5 | 77.7 | 72.5 | 74.8 | 76.3 | 78.0 | 73.5 | 82.2 | 82.0 | 78.0 | 73.7 |
| 125 | 66.0 | 69.4 | 71.3 | 78.0 | 73.3 | 75.3 | 77.1 | 78.5 | 74.3 | 81.8 | 80.6 | 76.4 | 70.8 |
| 160 | 63.6 | 72.2 | 72.4 | 77.9 | 73.7 | 74.9 | 77.7 | 78.4 | 73.9 | 81.3 | 79.8 | 75.4 | 70.0 |
| 200 | 65.4 | 71.0 | 72.1 | 78.9 | 75.6 | 76.9 | 78.3 | 79.0 | 74.6 | 80.5 | 79.5 | 74.7 | 69.4 |
| 250 | 64.5 | 70.6 | 72.5 | 79.4 | 74.9 | 76.2 | 77.8 | 80.2 | 74.5 | 80.6 | 78.9 | 74.5 | 69.0 |
| 315 | 64.1 | 71.4 | 72.7 | 79.6 | 75.6 | 77.6 | 78.7 | 80.6 | 75.4 | 81.7 | 78.4 | 74.6 | 68.3 |
| 400 | 65.0 | 71.9 | 73.2 | 81.1 | 75.9 | 78.1 | 79.8 | 81.6 | 76.8 | 82.3 | 79.5 | 75.3 | 69.2 |
| 500 | 64.6 | 69.2 | 72.9 | 80.6 | 75.6 | 77.8 | 79.7 | 82.6 | 76.3 | 81.9 | 80.0 | 77.0 | 70.8 |
| 630 | 65.4 | 71.0 | 73.7 | 81.7 | 76.9 | 79.0 | 81.0 | 83.8 | 77.6 | 84.3 | 82.3 | 79.2 | 72.1 |
| 800 | 65.0 | 70.5 | 73.5 | 82.3 | 77.0 | 78.9 | 82.2 | 85.1 | 78.4 | 84.5 | 82.9 | 80.1 | 72.8 |
| 1000 | 64.5 | 71.4 | 74.0 | 81.6 | 76.5 | 79.2 | 81.2 | 84.2 | 77.5 | 85.0 | 82.7 | 78.1 | 71.0 |
| 1250 | 64.0 | 71.4 | 73.8 | 80.4 | 76.3 | 78.9 | 80.8 | 82.6 | 76.2 | 83.6 | 81.4 | 76.9 | 68.8 |
| 1600 | 65.5 | 72.2 | 75.3 | 78.1 | 75.4 | 78.1 | 79.5 | 80.8 | 74.7 | 80.3 | 78.5 | 73.7 | 64.3 |
| 2000 | 63.4 | 71.4 | 74.6 | 76.5 | 76.3 | 78.1 | 79.3 | 79.3 | 73.0 | 76.8 | 75.6 | 69.4 | 58.2 |
| 2500 | 58.6 | 66.5 | 71.0 | 73.8 | 75.2 | 76.7 | 76.6 | 76.3 | 69.9 | 73.4 | 72.3 | 64.4 | 50.9 |
| 3150 | 52.0 | 60.9 | 66.3 | 70.8 | 72.4 | 74.6 | 74.2 | 73.5 | 66.6 | 69.6 | 66.6 | 57.6 | 39.6 |
| 4000 | 40.0 | 51.3 | 57.5 | 64.1 | 66.6 | 66.2 | 65.7 | 58.0 | 50.6 | 51.7 | 46.0 | 27.7 | 16.4 |
| 5000 | 26.5 | 40.9 | 48.1 | 54.9 | 56.9 | 59.3 | 59.3 | 58.0 | 50.6 | 51.7 | 46.0 | 27.7 | 16.4 |
| 6300 | 5.4 | 22.7 | 33.1 | 42.8 | 43.9 | 47.0 | 45.9 | 44.3 | 36.0 | 35.6 | 26.3 | 1.0 | 169.4 |
| 8000 | | | | | | | | | | | | | |
| 10000 | | | | | | | | | | | | | |
| 12500 | | | | | | | | | | | | | |
| 16000 | | | | | | | | | | | | | |
| 20000 | | | | | | | | | | | | | |
| 25000 | | | | | | | | | | | | | |
| 31500 | | | | | | | | | | | | | |
| 40000 | | | | | | | | | | | | | |
| 50000 | | | | | | | | | | | | | |
| 63000 | | | | | | | | | | | | | |
| 80000 | | | | | | | | | | | | | |
| DBA | 76.6 | 82.8 | 85.2 | 91.8 | 87.8 | 89.7 | 91.6 | 93.5 | 87.7 | 94.6 | 93.5 | 90.8 | 85.5 |
| PNL | 84.2 | 91.6 | 94.7 | 99.4 | 97.7 | 99.5 | 100.4 | 101.5 | 95.4 | 101.8 | 99.5 | 96.3 | 88.6 |
| PNLT | 84.2 | 91.6 | 95.3 | 99.9 | 97.7 | 99.5 | 100.4 | 101.5 | 95.4 | 101.8 | 99.5 | 96.3 | 88.6 |
| DBA | 73.6 | 80.4 | 83.4 | 89.3 | 85.9 | 87.9 | 89.5 | 91.6 | 85.2 | 91.6 | 89.6 | 85.5 | 78.2 |
| MODEL AREA = 128.3 SQ CM (19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9 | | | | | | | | | | | | | |
| NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514 | | | | | | | | | | | | | |
| VEHICL | = ADH173 | | | | | | | | | | | | |
| IAFLHA | = SBS9 | | | | | | | | | | | | |
| WIND DIR | = | | | | | | | | | | | | |
| DEG | WIND VEL | | | | | | | | | | | | |
| MPH | = NO | | | | | | | | | | | | |
| LOCAL | = C41 ANECH CH | | | | | | | | | | | | |
| CONFIO | = 5 | | | | | | | | | | | | |
| TAMB F | = 72.00 | | | | | | | | | | | | |
| EXT CONFIG | = SL | | | | | | | | | | | | |
| FPS | AE8 | | | | | | | | | | | | |
| FPS | AE18 | | | | | | | | | | | | |
| 19.9 SQ IN | = | | | | | | | | | | | | |
| 0. SQ IN | = | | | | | | | | | | | | |
| RPM | = | | | | | | | | | | | | |
| TEST DATE | = 6-30-82 | | | | | | | | | | | | |
| LEG | = | | | | | | | | | | | | |
| RPM | = | | | | | | | | | | | | |
| XNHR | = | | | | | | | | | | | | |
| RPM | = | | | | | | | | | | | | |
| V8 | = 2137.1 | | | | | | | | | | | | |
| RPM | = | | | | | | | | | | | | |
| NC | = AE049 | | | | | | | | | | | | |
| CORR FAN SPEED | = | | | | | | | | | | | | |
| RPM | = | | | | | | | | | | | | |

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DATE/ROC - F. PLAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARCIDENTIFICATION - MODEL 82F-400-0542 X0542C
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 81.0 84.1 84.6 79.9 81.5 78.6 88.0 84.9 76.6 80.2 85.8 87.0 92.6 126.7
63 82.0 91.7 93.8 89.6 90.6 86.3 98.1 92.8 84.5 87.3 85.7 86.7 95.6 134.1
80 82.2 87.5 84.7 85.3 83.6 86.2 87.6 87.5 81.5 85.8 87.9 91.6 96.3 129.6
100 81.2 87.0 83.1 85.6 85.5 86.4 87.8 80.0 87.3 91.0 94.4 97.3 130.4
125 78.9 82.9 84.7 83.9 85.8 85.9 87.8 80.9 88.7 94.1 97.8 99.5 132.3
160 77.3 77.8 83.1 83.6 81.9 82.3 92.7 84.1 80.6 89.9 95.0 98.2 100.9 133.1
200 77.3 79.9 82.9 85.4 81.5 83.1 88.5 85.7 82.1 89.9 94.3 101.4 133.3
250 75.8 79.6 85.4 81.2 82.6 84.7 86.4 82.8 93.6 98.8 102.0 102.1 135.3
315 76.0 81.1 82.6 87.1 83.0 84.1 87.7 87.4 84.1 95.4 99.3 102.2 101.9 135.8
400 76.4 80.2 80.7 87.2 82.3 83.7 90.6 87.2 84.4 96.2 99.6 101.3 98.7 135.3
500 76.9 80.0 80.8 82.9 84.0 87.1 88.6 84.8 97.1 99.5 98.9 95.5 134.3
630 76.8 80.0 81.8 86.9 83.7 84.6 86.7 86.6 85.1 97.6 98.5 96.2 91.4 133.6
800 78.6 80.9 82.7 90.2 84.6 86.0 87.6 90.2 87.5 98.3 98.4 92.6 87.7 133.7
1000 81.0 81.6 83.1 91.4 85.5 87.3 89.2 90.6 88.3 97.7 96.5 90.2 85.1 133.1
1250 80.0 84.6 84.8 92.1 85.9 87.8 89.4 89.1 89.1 97.4 96.0 84.2 133.2
1600 82.9 84.3 86.4 93.5 87.8 89.4 91.0 92.6 89.9 97.5 96.1 86.6 84.8 133.9
2000 82.3 84.7 85.9 94.0 87.8 89.2 91.7 93.7 90.6 97.9 94.9 87.0 84.0 134.1
2500 84.1 85.6 87.1 94.4 89.3 90.9 92.3 94.7 90.8 98.8 94.6 82.7 83.9 134.9
3150 84.9 86.7 88.0 95.2 94.3 96.0 92.4 94.3 96.0 92.3 98.9 83.3 135.7
4000 84.2 85.9 88.3 96.0 90.6 92.8 95.0 96.8 92.9 98.6 95.3 88.2 83.9 136.3
5000 85.8 89.1 91.8 97.7 94.5 96.4 98.3 94.5 101.1 97.9 90.7 86.2 138.3
6300 85.9 88.7 90.2 98.5 93.4 94.9 97.4 99.3 95.1 102.4 99.3 88.8 139.7
8000 86.2 89.6 90.4 98.8 92.5 95.1 97.3 99.9 95.3 103.6 101.4 95.7 90.6 140.8
10000 89.4 91.6 92.4 98.7 93.4 96.2 97.9 99.9 96.0 104.3 102.3 97.5 92.3 142.0
12500 92.8 93.9 94.7 97.3 93.3 95.6 96.9 98.5 94.6 102.5 100.7 98.1 93.1 141.8
16000 90.3 94.6 94.8 94.9 94.3 95.5 95.8 97.7 93.7 93.7 99.5 99.2 95.6 90.9 141.8
20000 87.5 90.3 92.4 93.5 94.3 95.6 95.7 95.5 91.3 96.3 96.5 93.5 88.7 141.8
25000 83.8 86.6 89.4 91.6 92.8 94.6 94.6 94.6 89.7 94.5 93.8 85.1 142.5
31500 77.3 81.6 83.6 86.6 86.9 89.8 89.5 89.6 84.6 89.6 89.6 89.4 85.2 78.2 140.5
40000 73.7 77.8 80.6 83.6 83.6 86.2 86.8 86.9 81.6 85.8 85.9 81.2 75.2 141.3
50000 69.4 74.1 76.2 80.2 80.3 83.5 82.7 83.2 78.9 82.2 82.9 77.9 70.4 142.3
63000 57.0 69.9 72.2 76.9 78.1 80.0 75.4 79.5 73.8 79.0 73.6 65.1 143.8
80000 57.3 66.6 66.9 72.8 70.0 75.2 73.3 74.5 71.1 76.1 73.8 66.7 58.0 146.0GASPL 99.2 102.2 103.4 108.1 104.3 106.0 108.2 109.2 105.2 112.9 112.9 110.7 110.2 154.2
PWL 109.1 111.5 113.2 120.1 115.0 116.9 119.3 120.7 116.9 124.5 123.0 118.6 116.8
PWL 109.1 111.5 113.2 120.1 115.0 116.9 120.7 116.9 124.5 123.0 118.6 116.8
DBA 95.6 97.8 99.3 106.8 101.3 103.4 105.5 107.4 103.6 111.4 109.5 105.3 102.7

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICLE = ADH184 TEST DATE = 6-30-82 LOCAL = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVL = 400. FPS
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE EXT DIST = 40.0 FT TAMB F = 73.00 PAMB HG = 29.35 RELHUM = 82.1 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =
FMN1 = LBS XNL = RPM XNH = RPM V8 = 2152.0 FPS AE8 = 19.9 SQ IN
FMRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2152.0 FPS AE8 = 19.9 SQ IN
RUNPT = 82F-400-0542 TAPE = X0542C TEST PT NO = 0542 NC = AE049 CORR FAN SPEED = RPMORIGINAL PAGE IS
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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0542 X0542F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

474

200 160 125 100 80 63 50
250 83.7 86.0 84.5 88.7 82.6 82.8 82.8 80.6 91.0 94.4 97.8 99.3 132.3
315 83.7 86.0 84.5 88.7 82.6 82.8 82.8 80.6 91.0 94.4 97.8 99.3 132.3
400 83.7 86.0 84.5 88.7 82.6 82.8 82.8 80.6 91.0 94.4 97.8 99.3 132.3
500 84.5 87.0 86.0 90.9 85.0 84.3 86.4 86.2 83.8 96.1 97.2 96.9 96.6 133.5
600 85.3 87.1 86.3 91.9 85.9 85.0 86.0 87.0 86.0 96.6 97.2 94.3 95.6 133.4
800 85.4 87.4 86.9 92.9 86.5 86.5 86.2 87.4 96.6 96.2 93.3 95.6 133.4
1000 87.4 88.4 88.6 94.4 87.9 88.0 88.5 88.8 88.1 96.3 95.6 91.0 94.7 133.6
1250 89.9 89.2 89.2 95.7 88.4 88.6 88.9 89.8 89.4 96.9 96.2 90.1 95.9 134.4
1600 88.3 91.7 90.5 96.2 90.6 90.5 90.9 91.2 90.4 97.5 95.2 90.8 95.4 135.1
2000 91.6 91.9 92.6 98.0 90.8 90.5 92.0 92.7 90.7 98.4 94.8 90.3 94.2 136.0
2500 91.2 92.5 92.2 98.7 92.6 92.5 92.9 93.1 99.5 96.1 91.6 96.0 137.1
3150 93.5 93.8 93.8 99.5 93.3 94.4 95.5 96.0 94.7 100.0 97.4 93.7 97.2 138.4
4000 94.7 95.3 95.0 100.6 94.9 95.4 96.9 97.6 96.1 96.1 102.3 99.8 99.2 140.2
5000 94.5 94.9 95.7 101.8 96.4 97.5 98.6 99.0 96.8 103.9 101.9 98.9 101.9 141.9
6300 96.0 96.3 97.7 103.6 98.0 97.9 99.5 100.1 97.1 105.2 103.7 101.4 103.7 143.5
8000 96.0 97.5 97.6 104.3 97.1 98.1 99.2 100.5 98.3 106.4 105.1 103.7 105.8 144.9
10000 96.2 97.6 104.4 97.9 99.2 100.0 100.7 97.7 104.9 103.4 103.6 105.5 145.1
12500 98.5 99.7 99.1 103.9 97.3 98.6 99.3 100.1 97.5 102.7 102.5 101.7 103.8 145.1
16000 98.7 99.2 99.2 100.9 98.3 98.5 98.3 99.4 93.6 98.2 98.7 98.7 100.8 144.7
20000 96.2 99.8 99.1 98.2 98.4 98.6 97.1 95.5 93.8 98.3 97.4 97.6 98.7 145.4
25000 92.8 94.9 96.1 96.2 97.3 97.6 97.1 95.1 90.8 95.7 96.1 95.1 95.1 145.6
31500 91.1 92.7 94.1 94.7 91.5 92.8 92.0 91.4 88.8 92.8 93.3 91.8 92.6 145.6
40000 83.8 86.8 87.4 88.9 88.2 89.2 88.8 86.2 85.4 89.4 89.3 88.9 88.9 145.6
50000 79.8 82.7 84.0 85.4 84.9 85.5 85.2 85.0 83.1 87.0 87.2 85.4 84.5 146.5
63000 74.6 78.0 78.7 81.1 80.3 82.4 80.4 81.5 79.0 83.5 81.4 77.3 75.5 147.3
80000 68.6 72.4 73.2 76.3 74.6 78.2 75.1 75.0 69.2 73.7 71.6 67.5 65.7 147.8

QASPL 106.9 108.3 108.3 112.9 107.9 108.5 109.0 109.5 107.0 114.0 112.8 111.5 113.5 157.1
PNL 116.9 117.8 117.9 123.8 117.9 118.3 119.4 120.0 118.0 125.5 124.0 121.7 124.1
DBA 190.6 194.2 195.0 197.8 196.4 199.5 196.8 197.0 192.8 197.1 195.5 191.9 190.5

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICL = ADH184 TEST DATE = 6-30-82
IAPLHA = SB59
WIND DIR = DEG WIND VEL = MPH
LOCAT = C41 ANECH CH CONFIG = 5
PWL AREA = FULL SPHERE TAMB F = 73.00
EXT DIST = 40.0 FT EXT CONFIG = ARC
XNH XNHR = RPM
V8 V18 = FPS AE8 AE18 = 19.9 SO IN
CORR FAN SPEED = RPM

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DATPROC - FLIKAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0542 X05421

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 62.7 68.0 69.2 72.9 67.1 66.8 72.0 66.8 64.4 74.9 75.5 73.9 70.5 151.6

63 63.5 67.5 67.6 73.2 67.7 67.2 69.1 68.5 65.4 76.6 76.2 73.7 70.0 151.9

80 64.3 67.6 67.9 74.2 68.7 67.8 68.7 69.3 67.6 77.1 76.2 71.0 68.9 151.9

100 64.3 67.2 69.6 75.2 69.6 69.3 69.4 70.5 68.9 77.0 75.1 70.0 68.8 151.9

125 66.2 68.8 70.1 76.6 70.5 70.7 71.1 71.0 69.6 76.6 74.4 67.7 68.4 152.9

160 68.5 69.4 70.5 77.7 70.9 71.2 71.3 71.9 70.7 77.0 74.8 66.3 68.4 152.9

200 66.6 71.6 71.6 78.1 72.9 72.9 73.2 73.1 71.5 77.5 73.5 66.7 67.5 153.6

250 69.6 71.6 73.5 79.6 73.0 72.7 74.1 74.4 71.6 78.1 72.8 65.8 65.7 154.5

315 68.6 71.8 72.8 80.1 74.5 74.5 74.7 75.2 73.7 78.8 73.7 66.6 66.6 155.6

400 70.5 72.7 74.1 80.5 74.9 76.1 77.1 77.1 74.9 79.0 74.5 68.0 66.8 156.9

500 71.3 73.9 74.9 81.4 76.1 76.8 78.2 78.4 76.0 80.9 76.4 69.7 67.9 158.7

630 70.6 73.1 75.3 82.3 77.4 78.7 79.6 79.5 76.4 80.4 76.4 69.7 67.9 158.7

800 71.6 74.1 76.9 83.8 78.8 78.8 80.3 80.4 76.4 83.0 79.3 73.6 70.1 162.0

1000 71.1 75.0 76.7 84.4 77.8 78.9 79.9 80.6 77.3 84.0 80.3 75.3 71.1 163.3

1250 70.8 75.4 76.4 84.3 78.4 79.8 80.5 80.6 76.5 82.1 78.1 74.4 69.4 163.5

1600 72.3 76.2 77.5 83.4 77.5 79.0 79.5 79.6 75.9 79.2 76.3 71.1 65.3 163.6

2000 71.5 75.2 77.3 80.2 78.3 78.8 78.3 78.7 71.6 74.1 71.5 66.5 59.3 163.1

2500 67.2 74.6 76.2 76.9 77.8 78.3 76.6 74.1 71.0 73.0 68.5 62.6 52.3 163.9

3150 60.4 67.2 71.3 73.3 75.4 76.0 75.2 72.2 66.1 68.0 63.7 55.0 40.3 164.3

4000 52.5 60.3 65.5 68.5 66.6 68.3 67.1 65.2 60.2 60.4 54.8 42.8 23.3 164.1

5000 35.4 46.9 52.6 57.2 59.3 59.9 57.2 51.4 49.5 42.6 26.6 165.0

6300 13.6 28.5 37.1 43.0 44.9 47.3 45.2 36.2 32.8 21.0 165.7

8000 13.6 28.5 37.1 43.0 44.9 47.3 45.2 36.2 32.8 21.0 165.7

10000 10.5 19.5 22.2 25.4 25.4 22.3 19.8 10.8 4.5 166.3

12500 10.5 19.5 22.2 25.4 25.4 22.3 19.8 10.8 4.5 166.3

16000 10.5 19.5 22.2 25.4 25.4 22.3 19.8 10.8 4.5 166.3

20000 10.5 19.5 22.2 25.4 25.4 22.3 19.8 10.8 4.5 166.3

25000 10.5 19.5 22.2 25.4 25.4 22.3 19.8 10.8 4.5 166.3

31500 10.5 19.5 22.2 25.4 25.4 22.3 19.8 10.8 4.5 166.3

40000 10.5 19.5 22.2 25.4 25.4 22.3 19.8 10.8 4.5 166.3

50000 10.5 19.5 22.2 25.4 25.4 22.3 19.8 10.8 4.5 166.3

63000 10.5 19.5 22.2 25.4 25.4 22.3 19.8 10.8 4.5 166.3

80000 10.5 19.5 22.2 25.4 25.4 22.3 19.8 10.8 4.5 166.3

QASPL 81.9 85.4 87.0 93.2 88.3 89.0 89.6 89.5 86.2 92.0 88.6 83.6 80.8 175.6

PWL 91.1 95.7 97.6 102.2 99.2 99.8 99.3 99.0 94.9 99.2 95.8 89.9 85.4

PNLT 92.1 95.7 98.2 102.7 99.7 100.3 99.3 99.0 95.5 99.9 96.8 89.9 85.4

DBA 80.4 84.4 86.2 91.9 87.6 88.5 88.7 88.6 84.8 90.0 86.2 81.1 77.0

MODEL AREA = 128.3 SQ CM (19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

NASA SHOCK CELL/20 EL ANN CV SUPP NO2 SC-5/NAS3-22514

VEHICL = ADH184 TEST DATE = 6-30-82 LOCAL = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 400. FPS

IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 73.00 PAMB HG = 29.35 RELHUM = 82.1 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR

FMN1 = LBS XNL RPM XNH XNHR = RPM V8 = 2152.0 FPS AE8 = 19.9 SQ IN

FMRAMB = LBS XNLR RPM = RPM V18 = 2152.0 FPS AE18 = 0. SQ IN

RUNPT = 82F-400-0542 TAPE = X05421 TEST PT NO = 0542 NC = AE049 CORR FAN SPEED = RPM

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE 59.0 DB, F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0543 X0543C

MODEL 82F-ZER-0543 X0543C
BACKGROUND X79F400B0400

| FREQ | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | PWL |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 63 | 82.5 | 91.7 | 94.0 | 88.1 | 88.3 | 97.6 | 93.3 | 82.5 | 86.8 | 93.2 | 91.9 | 93.1 | 134.2 |
| 80 | 84.9 | 90.2 | 87.2 | 87.0 | 87.1 | 89.2 | 89.9 | 83.0 | 88.3 | 91.9 | 94.4 | 95.5 | 131.7 |
| 100 | 84.7 | 91.7 | 87.5 | 86.6 | 90.1 | 89.8 | 90.6 | 91.8 | 92.8 | 95.7 | 98.7 | 99.8 | 134.4 |
| 125 | 81.1 | 87.1 | 88.7 | 89.8 | 90.2 | 89.8 | 91.9 | 84.8 | 84.8 | 94.2 | 102.7 | 136.6 | |
| 160 | 81.3 | 82.0 | 86.3 | 88.1 | 86.4 | 86.8 | 86.2 | 89.3 | 84.8 | 94.6 | 100.3 | 104.9 | 137.6 |
| 200 | 82.6 | 83.6 | 85.9 | 91.9 | 87.0 | 89.1 | 92.0 | 91.4 | 88.9 | 96.4 | 101.1 | 105.0 | 139.0 |
| 250 | 82.8 | 87.1 | 89.6 | 87.5 | 88.6 | 91.2 | 93.4 | 89.6 | 101.6 | 108.7 | 109.1 | 142.4 | |
| 315 | 81.8 | 86.8 | 87.6 | 89.7 | 90.6 | 93.7 | 93.9 | 91.3 | 102.6 | 106.5 | 109.7 | 143.2 | |
| 400 | 83.1 | 86.9 | 87.7 | 89.5 | 90.7 | 98.6 | 95.0 | 91.7 | 104.5 | 107.6 | 110.1 | 143.9 | |
| 500 | 83.7 | 87.0 | 88.0 | 95.3 | 89.6 | 91.5 | 93.4 | 95.5 | 104.3 | 107.5 | 109.4 | 143.3 | |
| 630 | 83.8 | 87.5 | 89.3 | 96.4 | 90.4 | 92.6 | 96.4 | 92.3 | 105.1 | 107.2 | 109.6 | 142.5 | |
| 800 | 85.9 | 88.4 | 90.5 | 97.5 | 92.1 | 93.5 | 94.8 | 98.0 | 105.3 | 105.9 | 105.1 | 141.9 | |
| 1000 | 88.8 | 90.1 | 91.6 | 98.1 | 93.0 | 94.6 | 96.2 | 98.1 | 104.4 | 104.0 | 103.0 | 141.0 | |
| 1250 | 87.5 | 93.8 | 92.6 | 98.1 | 93.2 | 94.8 | 96.4 | 98.4 | 104.4 | 103.6 | 101.7 | 140.9 | |
| 1600 | 88.9 | 93.0 | 93.2 | 99.2 | 94.6 | 95.9 | 99.8 | 95.7 | 103.5 | 103.6 | 101.6 | 141.1 | |
| 2000 | 88.0 | 92.4 | 93.4 | 100.0 | 94.3 | 95.7 | 97.7 | 100.0 | 104.1 | 102.4 | 101.0 | 141.1 | |
| 2500 | 89.1 | 93.6 | 94.1 | 100.2 | 95.3 | 96.9 | 98.3 | 101.2 | 96.8 | 104.8 | 101.9 | 141.8 | |
| 3150 | 89.9 | 93.4 | 94.2 | 101.7 | 96.1 | 98.1 | 100.3 | 102.0 | 97.8 | 104.9 | 103.1 | 142.7 | |
| 4000 | 88.7 | 92.4 | 94.3 | 101.8 | 95.9 | 98.1 | 100.0 | 103.5 | 98.2 | 105.1 | 104.1 | 143.4 | |
| 5000 | 90.3 | 93.8 | 94.9 | 102.9 | 96.9 | 98.8 | 101.7 | 104.0 | 99.8 | 107.6 | 107.2 | 145.4 | |
| 6300 | 91.4 | 95.0 | 95.0 | 103.3 | 97.5 | 99.2 | 102.2 | 105.9 | 100.1 | 108.0 | 108.3 | 146.6 | |
| 8000 | 93.8 | 98.6 | 97.7 | 103.1 | 96.9 | 99.4 | 102.1 | 105.2 | 99.9 | 108.0 | 107.7 | 146.7 | |
| 10000 | 96.8 | 101.2 | 101.0 | 102.3 | 98.8 | 100.3 | 101.5 | 103.7 | 99.4 | 107.5 | 106.4 | 146.8 | |
| 12500 | 96.5 | 99.6 | 102.7 | 101.0 | 99.5 | 100.2 | 100.8 | 101.7 | 98.5 | 104.7 | 104.2 | 146.3 | |
| 16000 | 92.3 | 97.4 | 99.9 | 99.5 | 101.6 | 100.8 | 99.9 | 101.7 | 96.8 | 102.3 | 102.5 | 146.3 | |
| 20000 | 90.6 | 93.8 | 96.4 | 96.7 | 100.3 | 99.8 | 99.8 | 99.2 | 94.5 | 99.6 | 100.7 | 146.1 | |
| 25000 | 87.8 | 92.1 | 95.4 | 95.0 | 97.1 | 98.7 | 98.8 | 97.9 | 93.1 | 99.3 | 99.1 | 146.9 | |
| 31500 | 82.0 | 87.0 | 90.0 | 90.5 | 92.0 | 93.6 | 93.4 | 89.3 | 95.2 | 93.4 | 88.4 | 145.5 | |
| 40000 | 79.0 | 84.6 | 87.4 | 88.3 | 90.2 | 91.6 | 91.2 | 86.7 | 94.0 | 93.6 | 90.4 | 147.4 | |
| 50000 | 75.8 | 82.1 | 84.7 | 87.2 | 87.9 | 88.6 | 88.4 | 85.4 | 93.0 | 92.7 | 88.0 | 149.9 | |
| 63000 | 71.9 | | | | | | | | | | | | |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0543 X0543F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 79.8 82.6 84.3 79.9 81.5 80.3 87.2 83.9 76.3 78.9 87.8 87.7 88.4 126.0

63 82.5 91.7 94.0 88.1 89.4 88.3 97.6 93.3 82.5 86.8 93.2 91.9 93.1 134.2

80 84.9 90.2 87.2 87.0 87.1 89.2 89.8 89.5 83.0 88.3 91.9 94.4 95.5 131.7

100 84.7 91.7 87.5 86.6 90.1 89.8 90.6 91.8 83.0 92.8 95.7 98.7 99.8 134.4

125 81.1 87.1 86.7 89.2 89.8 90.2 92.3 91.9 86.2 94.2 102.0 102.7 136.6

160 81.3 82.0 86.3 88.1 86.4 86.8 96.2 89.3 84.8 94.6 100.3 102.9 137.6

200 82.6 83.6 85.9 91.9 87.0 89.1 92.0 91.4 88.9 96.4 101.1 105.0 106.7 139.0

250 82.8 86.8 87.1 92.9 87.5 88.8 91.2 93.4 89.6 101.6 106.3 109.7 109.1 142.4

315 81.8 86.8 87.6 94.6 89.7 90.6 93.7 93.9 91.3 102.6 106.5 109.7 109.6 143.2

400 83.1 86.9 87.7 94.5 89.8 90.7 98.6 95.0 91.7 104.5 107.6 110.1 109.5 143.9

500 83.7 87.0 88.0 95.3 89.6 91.5 93.4 95.5 92.0 104.3 107.5 109.4 108.3 143.3

630 83.8 87.5 89.3 96.4 90.4 92.6 94.2 96.0 94.2 105.3 107.2 107.6 142.5

800 85.9 88.4 90.5 97.5 92.1 93.5 94.8 98.0 94.2 105.3 105.9 105.1 141.9

1000 88.8 90.1 91.6 98.1 93.0 94.6 96.2 98.1 95.1 104.4 104.0 103.0 141.0

1250 87.5 93.8 92.6 98.1 93.2 94.8 96.4 98.4 95.1 104.4 104.0 101.7 140.9

1500 88.9 93.0 93.2 99.2 94.6 95.9 98.0 99.8 95.7 103.5 103.6 101.6 141.1

2000 88.0 92.4 93.4 100.0 94.3 95.7 97.7 100.0 96.4 104.1 102.4 101.0 141.1

2500 89.1 93.6 94.1 100.2 95.3 96.9 98.3 101.2 96.8 104.8 102.8 101.9 141.8

3150 89.9 93.4 94.2 101.7 96.1 98.1 100.3 102.0 97.8 103.9 103.1 102.1 142.7

4000 88.7 92.4 94.3 101.8 95.9 98.1 100.0 103.5 98.2 105.1 104.1 104.9 143.4

5000 90.3 93.8 94.9 102.9 96.9 98.8 101.7 104.0 99.8 107.6 107.2 107.8 145.4

6300 91.4 95.0 95.0 103.3 97.5 99.2 102.2 105.9 100.1 108.0 107.3 107.6 146.6

8000 93.8 98.6 98.6 103.1 96.9 99.4 102.1 105.2 99.9 108.0 107.7 107.8 146.7

10000 96.8 101.2 101.0 102.3 98.8 100.3 101.5 103.7 99.4 107.5 106.4 107.4 146.8

12500 96.5 99.5 99.5 102.7 101.0 99.5 100.2 100.8 98.5 104.2 104.7 104.8 146.3

16000 92.3 97.4 99.9 99.5 101.6 100.8 99.9 101.7 96.8 102.3 102.5 102.1 146.3

20000 90.6 93.8 96.4 96.7 99.7 100.3 99.8 99.2 94.5 99.6 100.7 100.0 146.1

25000 87.8 92.1 95.4 95.0 97.1 98.7 98.8 97.9 93.1 99.3 99.1 97.9 146.9

31500 87.0 87.0 90.0 90.5 92.0 93.6 94.3 93.4 89.3 95.1 93.2 93.6 145.5

40000 79.0 84.6 87.4 88.3 90.2 91.6 91.2 91.6 86.7 94.0 93.6 90.4 147.4

50000 75.8 82.1 84.7 87.2 87.9 89.4 88.6 88.4 85.4 93.0 92.7 88.0 149.9

63000 71.9 79.3 82.8 84.9 84.2 86.6 84.8 86.3 83.2 91.1 91.5 86.1 153.0

80000 65.7 75.7 78.5 82.1 80.4 82.6 80.4 81.9 80.2 87.7 88.6 81.8 156.2

QASPL 104.1 108.3 109.4 113.2 109.8 111.0 112.8 114.6 110.0 118.3 118.9 119.9 161.5

PWL 114.5 119.1 125.6 120.3 122.1 124.6 127.0 127.0 122.3 130.6 130.8 131.4 130.5

DBA 187.6 196.8 199.7 203.0 201.6 203.7 201.7 203.1 201.1 208.7 209.5 203.0 194.6

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICL = ADH174 TEST DATE = 6-30-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.35 RELHUM = 69.1 PCT
WIND DIR = DEQ WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR

FMINI = LBS XNL RPM XNHR = RPM V8 = 2263.6 FPS AE8 = 19.9 SO IN
FMRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2263.6 FPS AE8 = 19.9 SO IN

RUNPT = 82F-ZER-0543 TAPE = X0543F TEST PT NO = 0543 NC = AE049 CORR FAN SPEED = RPM

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OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0543 X05431

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| 50 | 62.2 | 67.5 | 69.3 | 76.8 | 72.6 | 73.6 | 81.3 | 77.3 | 73.3 | 85.1 | 86.7 | 86.9 | 83.0 |
| 50 | 62.2 | 67.5 | 69.3 | 76.8 | 72.6 | 73.6 | 81.3 | 77.3 | 73.3 | 85.1 | 86.7 | 86.9 | 83.0 |
| 60 | 62.7 | 67.5 | 69.6 | 77.6 | 72.4 | 74.4 | 76.1 | 77.9 | 73.6 | 84.9 | 86.5 | 86.2 | 81.7 |
| 60 | 62.7 | 67.5 | 69.6 | 77.6 | 72.4 | 74.4 | 76.1 | 77.9 | 73.6 | 84.9 | 86.5 | 86.2 | 81.7 |
| 80 | 68.0 | 70.9 | 78.7 | 73.2 | 75.4 | 76.9 | 78.7 | 73.9 | 85.6 | 85.0 | 83.9 | 80.9 | 161.0 |
| 80 | 68.0 | 70.9 | 78.7 | 73.2 | 75.4 | 76.9 | 78.7 | 73.9 | 85.6 | 85.0 | 83.9 | 80.9 | 161.0 |
| 100 | 64.6 | 68.9 | 72.0 | 79.7 | 74.8 | 76.3 | 78.5 | 80.2 | 75.7 | 84.8 | 81.7 | 77.7 | 160.4 |
| 100 | 64.6 | 68.9 | 72.0 | 79.7 | 74.8 | 76.3 | 78.5 | 80.2 | 75.7 | 84.8 | 81.7 | 77.7 | 160.4 |
| 125 | 67.5 | 70.4 | 73.0 | 80.3 | 75.6 | 77.3 | 78.8 | 80.3 | 76.5 | 84.8 | 79.4 | 75.1 | 159.5 |
| 125 | 67.5 | 70.4 | 73.0 | 80.3 | 75.6 | 77.3 | 78.8 | 80.3 | 76.5 | 84.8 | 79.4 | 75.1 | 159.5 |
| 150 | 66.1 | 74.0 | 73.9 | 80.1 | 75.7 | 77.4 | 78.9 | 80.4 | 76.4 | 84.6 | 82.6 | 77.9 | 159.4 |
| 150 | 66.1 | 74.0 | 73.9 | 80.1 | 75.7 | 77.4 | 78.9 | 80.4 | 76.4 | 84.6 | 82.6 | 77.9 | 159.4 |
| 200 | 67.2 | 73.0 | 74.3 | 81.1 | 76.9 | 78.4 | 80.3 | 81.7 | 76.8 | 83.5 | 82.0 | 77.5 | 159.6 |
| 200 | 67.2 | 73.0 | 74.3 | 81.1 | 76.9 | 78.4 | 80.3 | 81.7 | 76.8 | 83.5 | 82.0 | 77.5 | 159.6 |
| 250 | 66.0 | 72.1 | 74.2 | 81.7 | 76.4 | 78.0 | 79.8 | 81.7 | 77.2 | 83.8 | 80.4 | 76.5 | 159.5 |
| 250 | 66.0 | 72.1 | 74.2 | 81.7 | 76.4 | 78.0 | 79.8 | 81.7 | 77.2 | 83.8 | 80.4 | 76.5 | 159.5 |
| 315 | 66.6 | 72.9 | 74.7 | 81.6 | 77.1 | 78.9 | 80.2 | 82.6 | 77.4 | 84.2 | 80.4 | 76.8 | 160.2 |
| 315 | 66.6 | 72.9 | 74.7 | 81.6 | 77.1 | 78.9 | 80.2 | 82.6 | 77.4 | 84.2 | 80.4 | 76.8 | 160.2 |
| 400 | 67.0 | 72.4 | 74.4 | 82.8 | 77.6 | 79.8 | 81.8 | 83.1 | 78.0 | 83.8 | 81.0 | 77.3 | 161.2 |
| 400 | 67.0 | 72.4 | 74.4 | 82.8 | 77.6 | 79.8 | 81.8 | 83.1 | 78.0 | 83.8 | 81.0 | 77.3 | 161.2 |
| 500 | 65.3 | 71.0 | 74.2 | 82.6 | 77.1 | 79.5 | 81.2 | 84.3 | 78.1 | 83.7 | 80.7 | 78.5 | 161.9 |
| 500 | 65.3 | 71.0 | 74.2 | 82.6 | 77.1 | 79.5 | 81.2 | 84.3 | 78.1 | 83.7 | 80.7 | 78.5 | 161.9 |
| 630 | 66.4 | 72.0 | 74.5 | 83.4 | 77.9 | 80.0 | 82.7 | 84.5 | 79.3 | 85.8 | 83.3 | 80.7 | 163.9 |
| 630 | 66.4 | 72.0 | 74.5 | 83.4 | 77.9 | 80.0 | 82.7 | 84.5 | 79.3 | 85.8 | 83.3 | 80.7 | 163.9 |
| 800 | 67.0 | 72.8 | 74.3 | 83.5 | 78.2 | 80.1 | 83.0 | 86.1 | 79.4 | 85.8 | 83.9 | 81.1 | 165.1 |
| 800 | 67.0 | 72.8 | 74.3 | 83.5 | 78.2 | 80.1 | 83.0 | 86.1 | 79.4 | 85.8 | 83.9 | 81.1 | 165.1 |
| 1000 | 69.0 | 76.1 | 76.8 | 83.1 | 77.5 | 80.2 | 82.7 | 79.0 | 85.5 | 82.9 | 79.3 | 71.7 | 165.1 |
| 1000 | 69.0 | 76.1 | 76.8 | 83.1 | 77.5 | 80.2 | 82.7 | 79.0 | 85.5 | 82.9 | 79.3 | 71.7 | 165.1 |
| 1250 | 71.5 | 78.4 | 79.8 | 82.2 | 79.3 | 80.9 | 82.0 | 83.6 | 78.2 | 84.6 | 81.1 | 78.2 | 165.3 |
| 1250 | 71.5 | 78.4 | 79.8 | 82.2 | 79.3 | 80.9 | 82.0 | 83.6 | 78.2 | 84.6 | 81.1 | 78.2 | 165.3 |
| 1500 | 70.3 | 76.2 | 81.1 | 80.5 | 79.7 | 80.6 | 81.0 | 82.3 | 76.9 | 81.3 | 78.0 | 74.2 | 164.8 |
| 1500 | 70.3 | 76.2 | 81.1 | 80.5 | 79.7 | 80.6 | 81.0 | 82.3 | 76.9 | 81.3 | 78.0 | 74.2 | 164.8 |
| 2000 | 65.1 | 73.4 | 77.9 | 78.8 | 81.6 | 81.1 | 79.9 | 81.0 | 74.8 | 78.3 | 75.4 | 69.9 | 164.7 |
| 2000 | 65.1 | 73.4 | 77.9 | 78.8 | 81.6 | 81.1 | 79.9 | 81.0 | 74.8 | 78.3 | 75.4 | 69.9 | 164.7 |
| 2500 | 61.6 | 68.5 | 73.5 | 75.3 | 79.2 | 80.0 | 79.3 | 77.8 | 71.7 | 74.4 | 71.8 | 64.9 | 164.6 |
| 2500 | 61.6 | 68.5 | 73.5 | 75.3 | 79.2 | 80.0 | 79.3 | 77.8 | 71.7 | 74.4 | 71.8 | 64.9 | 164.6 |
| 3150 | 55.5 | 64.4 | 70.6 | 72.1 | 75.2 | 77.1 | 76.9 | 75.0 | 68.3 | 71.6 | 66.8 | 57.9 | 163.9 |
| 3150 | 55.5 | 64.4 | 70.6 | 72.1 | 75.2 | 77.1 | 76.9 | 75.0 | 68.3 | 71.6 | 66.8 | 57.9 | 163.9 |
| 4000 | 43.5 | 54.6 | 61.5 | 64.3 | 67.1 | 69.1 | 69.4 | 67.2 | 60.7 | 62.7 | 56.7 | 44.2 | 163.9 |
| 4000 | 43.5 | 54.6 | 61.5 | 64.3 | 67.1 | 69.1 | 69.4 | 67.2 | 60.7 | 62.7 | 56.7 | 44.2 | 163.9 |
| 5000 | 30.7 | 47.6 | 52.6 | 56.7 | 60.4 | 62.3 | 61.3 | 60.0 | 54.0 | 45.3 | 27.7 | 1.3 | 163.9 |
| 5000 | 30.7 | 47.6 | 52.6 | 56.7 | 60.4 | 62.3 | 61.3 | 60.0 | 54.0 | 45.3 | 27.7 | 1.3 | 163.9 |
| 6300 | 9.6 | 27.9 | 37.8 | 44.8 | 47.9 | 50.2 | 48.6 | 46.0 | 38.5 | 38.8 | 26.5 | 1.3 | 168.4 |
| 6300 | 9.6 | 27.9 | 37.8 | 44.8 | 47.9 | 50.2 | 48.6 | 46.0 | 38.5 | 38.8 | 26.5 | 1.3 | 168.4 |
| 8000 | 0.2 | 14.6 | 23.3 | 26.1 | 29.7 | 29.7 | 26.7 | 24.7 | 15.0 | 12.1 | 171.5 | 174.7 | |
| 8000 | 0.2 | 14.6 | 23.3 | 26.1 | 29.7 | 29.7 | 26.7 | 24.7 | 15.0 | 12.1 | 171.5 | 174.7 | |

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MODEL AREA = 128.3 SQ CM (19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9
NASA SHOCK CELL/20 EL ANN CV SUPP NO2 SC-5/NAS3-22514

VEHICLE = ADH174 TEST DATE = 6-30-82
WIND DIR = SB59
WIND VEL = NO
EXT DIST = 2400.0 FT
EXT AREA = FULL SPHERE
EXT CONFIG = SL
EXT HT = 29.35
EXT VEL = 69.1 PCT
EXT AREA = 2400.0 FT
EXT CONFIG = SL
EXT HT = 29.35
EXT VEL = 69.1 PCT
VEHICLE = ADH174 TEST DATE = 6-30-82
WIND DIR = SB59
WIND VEL = NO
EXT DIST = 2400.0 FT
EXT AREA = FULL SPHERE
EXT CONFIG = SL
EXT HT = 29.35
EXT VEL = 69.1 PCT

VEHICLE = ADH174 TEST DATE = 6-30-82
WIND DIR = SB59
WIND VEL = NO
EXT DIST = 2400.0 FT
EXT AREA = FULL SPHERE
EXT CONFIG = SL
EXT HT = 29.35
EXT VEL = 69.1 PCT
VEHICLE = ADH174 TEST DATE = 6-30-82
WIND DIR = SB59
WIND VEL = NO
EXT DIST = 2400.0 FT
EXT AREA = FULL SPHERE
EXT CONFIG = SL
EXT HT = 29.35
EXT VEL = 69.1 PCT

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0544 X0544C
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

| | | | | | | | | | | | | | |
|---|-----------|------|------|-------|------|------|-------|-------|-------|-------|-------|-------|-------|
| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
| 50 | 82.3 | 84.1 | 84.3 | 82.9 | 80.7 | 77.8 | 85.2 | 85.1 | 77.6 | 80.9 | 87.3 | 88.0 | 92.1 |
| 63 | 82.0 | 91.5 | 93.5 | 90.8 | 89.9 | 83.5 | 96.1 | 93.3 | 84.3 | 86.8 | 88.0 | 87.2 | 91.6 |
| 80 | 83.9 | 88.5 | 85.7 | 86.5 | 86.1 | 88.0 | 88.4 | 87.5 | 82.7 | 86.6 | 89.7 | 92.4 | 94.0 |
| 100 | 82.7 | 89.0 | 85.3 | 84.3 | 87.6 | 87.5 | 88.6 | 89.8 | 81.3 | 88.6 | 92.5 | 98.4 | 101.0 |
| 125 | 80.4 | 84.6 | 86.2 | 85.7 | 87.3 | 88.2 | 89.8 | 89.2 | 82.2 | 90.5 | 99.9 | 101.0 | 103.1 |
| 160 | 78.3 | 78.8 | 83.6 | 83.6 | 83.7 | 83.1 | 92.9 | 84.6 | 81.1 | 90.4 | 96.3 | 99.2 | 102.1 |
| 200 | 79.3 | 80.9 | 83.4 | 87.2 | 83.0 | 84.9 | 90.0 | 87.7 | 83.9 | 91.7 | 96.3 | 101.5 | 103.7 |
| 250 | 77.5 | 81.6 | 81.1 | 87.6 | 83.2 | 84.8 | 86.2 | 88.4 | 84.1 | 96.4 | 101.5 | 104.6 | 107.9 |
| 315 | 77.0 | 82.3 | 83.8 | 88.6 | 84.5 | 85.3 | 89.2 | 88.9 | 86.1 | 97.6 | 101.8 | 104.5 | 107.9 |
| 400 | 78.1 | 81.7 | 82.2 | 89.0 | 84.6 | 85.2 | 91.6 | 89.2 | 85.9 | 99.2 | 102.6 | 104.1 | 107.2 |
| 500 | 78.2 | 81.0 | 82.5 | 89.8 | 84.4 | 85.5 | 88.6 | 89.0 | 86.3 | 99.3 | 102.5 | 102.1 | 98.8 |
| 630 | 77.8 | 81.5 | 83.6 | 91.1 | 85.2 | 86.8 | 88.4 | 90.1 | 86.8 | 100.1 | 101.3 | 99.7 | 95.4 |
| 800 | 80.6 | 82.4 | 84.2 | 92.2 | 86.6 | 88.0 | 89.3 | 92.0 | 89.0 | 100.5 | 101.2 | 96.8 | 90.2 |
| 1000 | 82.5 | 82.8 | 85.1 | 92.9 | 88.6 | 90.7 | 93.4 | 89.8 | 93.5 | 99.9 | 99.5 | 86.6 | 135.5 |
| 1250 | 81.5 | 86.1 | 86.6 | 93.6 | 87.7 | 89.3 | 91.7 | 93.4 | 90.3 | 100.1 | 98.8 | 91.2 | 86.0 |
| 1500 | 84.1 | 85.3 | 87.4 | 95.2 | 90.1 | 90.9 | 93.0 | 94.6 | 91.7 | 99.3 | 98.4 | 89.3 | 85.3 |
| 2000 | 84.0 | 85.4 | 87.6 | 96.0 | 89.6 | 91.2 | 92.7 | 95.7 | 91.9 | 100.1 | 97.7 | 89.2 | 86.0 |
| 2500 | 85.3 | 87.1 | 88.1 | 95.9 | 90.8 | 92.4 | 94.1 | 97.2 | 92.5 | 100.8 | 96.8 | 89.7 | 85.2 |
| 3150 | 85.4 | 87.2 | 89.2 | 96.7 | 91.3 | 93.6 | 96.0 | 98.0 | 93.8 | 100.6 | 97.4 | 89.6 | 85.1 |
| 4000 | 86.0 | 86.9 | 89.8 | 97.5 | 92.6 | 94.1 | 96.2 | 99.3 | 94.4 | 99.8 | 97.3 | 90.4 | 86.2 |
| 5000 | 87.0 | 89.3 | 90.6 | 99.2 | 93.3 | 95.5 | 97.7 | 100.5 | 95.5 | 103.1 | 100.2 | 88.0 | 140.0 |
| 6300 | 88.6 | 89.4 | 91.7 | 100.2 | 94.4 | 96.4 | 98.7 | 101.3 | 97.3 | 103.9 | 102.5 | 95.6 | 90.6 |
| 8000 | 92.0 | 93.3 | 93.6 | 100.8 | 94.0 | 96.6 | 98.5 | 101.9 | 97.3 | 105.4 | 103.4 | 97.7 | 93.1 |
| 10000 | 96.9 | 98.4 | 97.4 | 100.9 | 95.7 | 97.7 | 101.4 | 97.7 | 106.3 | 104.3 | 100.0 | 94.8 | 144.3 |
| 12500 | 96.6 | 98.2 | 99.8 | 99.8 | 97.6 | 98.1 | 98.9 | 100.8 | 97.1 | 104.5 | 103.5 | 99.6 | 144.5 |
| 16000 | 92.3 | 96.1 | 98.0 | 97.9 | 99.5 | 98.8 | 98.3 | 99.4 | 95.9 | 101.2 | 101.2 | 97.6 | 144.3 |
| 20000 | 90.2 | 92.0 | 94.7 | 96.3 | 97.8 | 98.8 | 98.4 | 97.5 | 93.3 | 98.6 | 98.5 | 96.0 | 144.4 |
| 25000 | 87.3 | 89.6 | 92.2 | 94.1 | 95.5 | 97.4 | 97.5 | 92.2 | 96.5 | 95.7 | 93.1 | 87.4 | 145.0 |
| 31500 | 80.5 | 84.4 | 86.4 | 89.1 | 89.7 | 89.4 | 91.8 | 91.6 | 87.1 | 91.8 | 91.1 | 87.4 | 142.9 |
| 40000 | 76.4 | 81.6 | 83.3 | 85.8 | 87.1 | 89.4 | 89.3 | 89.4 | 84.6 | 89.0 | 88.4 | 83.5 | 144.1 |
| 50000 | 72.7 | 76.9 | 80.2 | 82.7 | 84.0 | 86.5 | 85.7 | 85.2 | 81.1 | 85.4 | 81.2 | 75.9 | 145.1 |
| 63000 | 68.0 | 73.9 | 77.2 | 80.1 | 80.0 | 82.6 | 81.3 | 82.3 | 78.7 | 83.2 | 81.2 | 75.9 | 147.0 |
| 80000 | 61.5 | 71.1 | 73.4 | 76.3 | 75.3 | 78.7 | 77.5 | 77.0 | 73.9 | 79.9 | 76.0 | 68.9 | 149.6 |
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OF POOR QUALITY | | | | | | | | | | | | | |
| NASA SHOCK CELL/20 EL ANN CV SUPP NO2 SC-5/NAS3-22514 | | | | | | | | | | | | | |
| VEHICL | = ADH183 | | | | | | | | | | | | |
| WIND DIR | = SB59 | | | | | | | | | | | | |
| WIND VEL | = NO | | | | | | | | | | | | |
| DEG | = NO | | | | | | | | | | | | |
| WIND VEL | = MPH | | | | | | | | | | | | |
| EXT DIST | = 40.0 FT | | | | | | | | | | | | |
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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

PWL

ANGLES MEASURED FROM INLET, DEGREES

ANGLES MEASURED FROM INLET, DEGREES

| | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|
| 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|

480

[illegible]

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000
FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00
REFR CORR YES, TURB CORR YES
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NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

[illegible]

544 TAPE = X0544F TEST PT NO = 0544 NC = AE049 CORR FAN SPEED = RPM

DATAPROC - FLIRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0544 X05441

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 63.9 69.4 70.5 74.5 69.4 68.3 73.0 68.8 65.6 76.8 78.1 76.7 73.4 153.9
63 65.4 69.2 75.1 69.3 68.7 70.6 69.4 67.1 78.8 78.4 76.4 73.2 154.2
80 65.7 68.7 76.1 70.2 70.1 70.5 70.8 69.2 79.5 79.1 75.4 71.5 154.4
100 65.7 69.7 71.1 77.6 71.7 71.3 71.2 72.3 70.3 79.1 77.8 73.0 70.2 154.1
125 68.4 70.5 71.7 78.7 72.3 72.6 73.6 70.7 79.2 76.9 70.5 69.3 154.3
150 69.9 70.6 72.4 79.2 72.6 72.7 73.6 72.1 78.3 76.5 68.4 154.4
200 68.1 73.1 73.4 79.6 75.2 74.4 74.8 72.5 79.4 75.9 68.6 69.1 155.4
250 71.4 73.0 74.8 81.6 74.8 74.7 74.8 76.1 73.3 80.2 75.1 68.8 68.0 155.3
315 70.9 72.9 74.7 82.2 76.0 76.0 76.5 77.7 75.1 80.4 76.1 69.1 68.1 157.4
400 72.0 74.4 75.2 82.1 76.7 77.4 78.8 78.9 80.5 76.8 70.5 69.2 158.6
500 72.3 74.7 76.4 83.0 78.1 78.1 79.5 81.0 76.8 82.7 78.4 71.6 69.3 160.3
630 72.4 74.1 76.8 83.8 78.9 79.7 80.7 81.6 78.5 83.4 80.6 73.9 71.0 162.0
800 72.9 76.1 77.4 85.3 79.8 80.3 81.4 82.2 78.6 85.0 81.5 75.8 72.7 163.8
1000 73.9 75.8 78.2 86.1 79.0 80.4 81.2 82.7 79.3 86.1 82.5 77.9 73.6 165.4
1250 74.8 77.8 78.8 85.7 79.9 81.3 82.3 82.2 79.0 84.4 81.3 76.6 71.7 165.7
1500 75.8 79.7 80.1 84.1 81.6 80.8 81.7 78.3 81.1 78.4 73.2 67.1 165.7
2000 74.1 78.6 82.2 83.6 82.0 80.8 80.5 76.4 73.6 76.4 73.5 69.0 61.3 166.2
2500 69.2 76.1 79.5 79.9 81.9 81.6 79.3 76.1 73.0 74.6 70.3 64.5 54.2 166.5
3150 66.0 71.2 75.3 77.2 78.2 74.6 68.7 70.3 65.4 57.0 42.4 167.3
4000 56.0 63.3 68.2 71.0 69.4 71.1 69.4 67.3 63.1 63.6 57.5 45.6 25.7 166.8
5000 38.7 49.6 55.4 59.7 61.8 63.1 61.8 59.6 53.4 52.7 44.9 29.0 0.5 167.8
6300 16.4 32.2 39.8 45.2 48.7 50.3 48.2 44.5 39.2 36.2 22.9 0.5 168.9 170.1ORIGINAL PAGE IS
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MODEL AREA = 128.3 SQ CM (19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

NASA SHOCK CELL/20 EL ANN CV SUPP NO2 SC-5/NAS3-22514

VEHICL = ADH183 TEST DATE = 6-30-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLIVEL = 400. FPS
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 73.00 PAMB HG = 29.35 RELHUM = 82.1 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FMINI = LBS XNL RPM XNH XNHR = V8 = 2274.9 FPS AE8 = 19.9 SQ IN = 0. SQ IN

FNRAMB = LBS XNLR = RPM XNHR = V8 = 2274.9 FPS AE18 = 19.9 SQ IN = 0. SQ IN

RUNPT = 82F-400-0544 TAPE = X05441 TEST PT NO = 0544 NC = AE049 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0545 X0545C
BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 83.3 84.3 87.1 85.9 84.2 84.8 86.2 86.4 79.3 85.4 89.5 93.5 94.1 129.3

63 85.5 92.2 95.8 93.8 92.6 93.0 95.6 92.8 87.0 92.1 95.9 98.9 99.6 135.6

80 88.7 94.2 90.7 91.3 90.9 93.0 93.6 92.6 85.8 91.8 93.5 98.9 99.6 135.6

100 89.7 96.7 92.3 89.8 94.1 94.3 95.6 97.1 86.5 96.6 99.2 103.4 105.1 139.0

125 85.6 90.6 92.4 93.2 94.5 94.9 96.5 96.4 89.7 98.5 104.1 107.0 108.2 141.5

150 85.8 85.8 90.6 92.3 89.8 94.1 94.3 95.6 97.1 86.5 96.6 99.2 103.4 105.1 139.0

175 85.6 90.6 92.4 93.2 94.5 94.9 96.5 96.4 89.7 98.5 104.1 107.0 108.2 141.5

200 87.1 87.4 88.9 86.2 91.0 93.6 96.8 95.4 93.1 95.7 98.1 93.6 106.1 110.0 112.2 144.0

250 86.8 90.3 90.8 96.6 92.0 93.1 95.7 98.1 93.6 106.1 110.0 112.2 144.0 147.5

315 86.0 90.3 90.8 96.6 92.0 93.1 95.7 98.1 93.6 106.1 110.0 112.2 144.0 147.5

400 87.6 91.2 91.4 99.2 93.8 93.9 98.7 98.4 95.8 108.1 112.5 115.0 115.4 148.7

500 88.7 91.2 91.5 100.0 93.1 95.0 97.1 99.3 97.3 111.1 115.5 116.6 115.5 150.5

630 88.5 91.6 93.6 101.6 94.9 96.3 98.7 100.6 97.6 111.9 115.8 117.7 116.4 151.3

800 89.1 93.4 94.7 102.7 95.8 97.5 98.8 102.2 99.5 111.5 115.2 117.3 116.2 151.0

1000 96.0 96.3 97.1 103.1 96.5 98.1 100.2 102.6 99.8 110.9 113.3 116.5 115.1 150.1

1250 96.0 96.3 97.1 103.1 96.5 98.1 100.2 102.6 99.8 110.9 113.3 116.5 115.1 150.1

1500 93.0 98.3 98.6 103.9 98.9 99.3 100.7 102.9 100.3 109.9 112.3 115.4 114.7 149.4

1750 93.4 95.8 96.4 104.2 98.6 99.9 102.3 104.1 101.2 109.0 111.9 114.6 113.1 148.8

2000 94.1 97.8 97.6 103.9 98.8 100.1 102.1 104.7 100.8 110.3 110.8 111.9 108.7 147.8

2500 94.4 97.7 98.0 104.5 99.1 100.9 103.0 105.8 101.4 108.6 109.2 106.7 147.2

3150 94.4 97.7 98.0 104.5 99.1 100.9 103.0 105.8 101.4 108.6 109.2 106.7 147.2

4000 93.2 97.9 98.0 104.6 98.9 100.6 103.0 105.8 101.4 108.6 109.2 106.7 147.2

5000 86.5 89.7 90.4 91.9 92.9 92.1 91.2 88.4 94.0 94.7 90.0 82.7 152.7

63000 77.2 85.3 87.8 88.2 89.2 90.9 88.8 90.1 86.5 92.9 93.3 87.6 78.3 156.1

80000 71.2 81.7 85.5 85.9 84.7 87.8 84.7 85.4 84.0 90.4 90.4 83.3 72.4 159.7

QASPL 108.5 113.2 114.1 116.6 114.2 114.8 115.9 117.2 113.6 122.6 125.3 126.9 125.9 165.4

PNL 120.3 124.6 124.9 129.0 124.2 125.2 127.7 129.6 125.9 134.7 136.8 137.3 135.8

PMLT 121.5 125.3 124.9 129.0 124.2 125.2 128.6 129.6 125.9 134.7 136.8 137.3 135.8

DBA 107.0 111.4 111.9 115.8 111.3 111.9 113.9 116.2 112.7 121.8 124.0 125.5 124.1

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICLE = ADH178 TEST DATE = 6-30-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLVEL = 0. FPS
WIND DIR = SB59 LEGA = NO EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = 29.30 PAMB HG = 69.2 PCT
WIND DIR = SB59 LEGA = NO EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = 29.30 PAMB HG = 69.2 PCT

82F-ZER-0545 TAPE = X0545C TEST PT NO = 0545 NC = AE049 CORR FAN SPEED = RPM
LBS XNLR = RPM XNHR = RPM V8 = 2537.1 FPS AE8 = 19.9 SQ IN
LBS XNLR = RPM XNHR = RPM V8 = 2537.1 FPS AE8 = 19.9 SQ IN

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0545 X0545F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.
PWL

| | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 80 | 88.7 | 94.2 | 90.7 | 91.3 | 90.9 | 93.0 | 93.6 | 92.8 | 87.0 | 92.1 | 95.9 | 85.8 | 79.3 |
| 63 | 85.5 | 92.2 | 95.8 | 93.8 | 92.6 | 93.0 | 95.6 | 95.1 | 85.8 | 91.8 | 93.5 | 89.5 | 83.5 |
| 50 | 83.3 | 84.3 | 87.1 | 85.9 | 84.2 | 84.8 | 86.2 | 86.4 | 79.3 | 85.4 | 89.5 | 93.5 | 89.5 |
| 200 | 87.1 | 87.4 | 88.9 | 88.9 | 96.2 | 91.0 | 93.6 | 96.8 | 95.4 | 93.1 | 100.9 | 106.1 | 110.0 |
| 250 | 86.8 | 90.3 | 90.8 | 96.6 | 92.0 | 93.1 | 95.7 | 97.9 | 95.8 | 106.1 | 111.5 | 114.0 | 114.4 |
| 315 | 86.0 | 90.3 | 90.8 | 96.6 | 93.5 | 94.8 | 97.7 | 97.9 | 96.4 | 108.1 | 112.5 | 115.0 | 115.4 |
| 400 | 87.6 | 91.2 | 91.4 | 99.2 | 93.8 | 93.9 | 103.3 | 98.7 | 96.4 | 110.8 | 114.6 | 116.8 | 115.2 |
| 500 | 88.7 | 91.2 | 91.5 | 100.0 | 93.1 | 95.0 | 97.1 | 99.3 | 97.3 | 111.1 | 115.5 | 116.6 | 115.5 |
| 630 | 86.5 | 91.8 | 93.6 | 101.6 | 94.9 | 96.3 | 98.7 | 100.6 | 97.6 | 111.9 | 115.8 | 117.7 | 116.4 |
| 800 | 92.1 | 93.4 | 94.7 | 102.7 | 95.8 | 97.5 | 98.8 | 102.2 | 99.5 | 111.5 | 115.2 | 117.3 | 116.2 |
| 1000 | 96.0 | 96.3 | 97.1 | 103.1 | 96.5 | 98.1 | 100.2 | 102.6 | 99.8 | 110.9 | 113.3 | 116.5 | 115.1 |
| 1250 | 93.0 | 98.3 | 98.6 | 103.9 | 99.3 | 100.7 | 102.9 | 100.3 | 109.9 | 112.3 | 115.4 | 114.7 | 114.9 |
| 1600 | 93.4 | 95.8 | 96.7 | 104.2 | 98.6 | 99.9 | 102.3 | 104.1 | 101.2 | 109.0 | 111.9 | 113.1 | 114.8 |
| 2000 | 93.8 | 96.4 | 97.4 | 104.5 | 97.8 | 98.9 | 101.7 | 104.5 | 100.6 | 109.9 | 110.9 | 113.5 | 111.7 |
| 2500 | 94.1 | 97.8 | 97.6 | 103.9 | 98.8 | 100.1 | 102.1 | 104.7 | 100.8 | 110.3 | 111.9 | 108.7 | 147.8 |
| 3150 | 94.4 | 97.7 | 98.0 | 104.5 | 99.1 | 100.9 | 103.5 | 105.2 | 101.8 | 110.1 | 111.7 | 108.6 | 147.9 |
| 4000 | 93.2 | 97.9 | 98.0 | 104.8 | 98.9 | 100.6 | 103.0 | 105.8 | 101.4 | 108.6 | 110.6 | 109.2 | 147.2 |
| 5000 | 96.6 | 99.8 | 100.4 | 105.4 | 99.6 | 101.3 | 103.2 | 106.0 | 102.5 | 110.4 | 112.0 | 109.5 | 148.3 |
| 6300 | 98.9 | 103.7 | 103.0 | 105.5 | 101.5 | 102.6 | 104.0 | 106.4 | 102.6 | 109.7 | 110.6 | 107.1 | 148.5 |
| 8000 | 100.3 | 106.6 | 106.7 | 105.3 | 102.6 | 102.4 | 103.9 | 106.7 | 102.7 | 109.7 | 109.7 | 107.5 | 149.1 |
| 10000 | 98.6 | 105.0 | 107.3 | 105.5 | 107.0 | 105.3 | 104.3 | 105.7 | 103.1 | 108.5 | 108.4 | 106.7 | 149.6 |
| 12500 | 97.7 | 101.6 | 103.5 | 106.5 | 104.6 | 103.7 | 104.8 | 104.7 | 100.8 | 106.2 | 106.2 | 103.3 | 149.2 |
| 16000 | 95.5 | 100.4 | 101.9 | 100.7 | 103.3 | 105.1 | 104.6 | 103.7 | 99.0 | 103.8 | 104.3 | 100.6 | 148.7 |
| 20000 | 93.6 | 97.8 | 99.9 | 99.9 | 101.5 | 102.5 | 100.9 | 97.0 | 101.6 | 102.5 | 100.5 | 98.4 | 148.2 |
| 25000 | 91.1 | 95.8 | 98.1 | 97.7 | 100.1 | 101.2 | 101.3 | 100.4 | 95.6 | 100.5 | 100.4 | 98.9 | 149.2 |
| 31500 | 85.5 | 91.5 | 93.0 | 93.5 | 91.5 | 93.5 | 96.6 | 91.5 | 96.8 | 97.5 | 94.4 | 86.7 | 148.1 |
| 40000 | 82.5 | 89.6 | 91.9 | 91.5 | 93.5 | 94.6 | 94.2 | 93.8 | 89.9 | 95.0 | 96.6 | 92.1 | 150.1 |
| 50000 | 80.5 | 87.1 | 89.7 | 90.4 | 91.9 | 92.9 | 92.1 | 91.2 | 88.4 | 94.0 | 94.7 | 90.0 | 152.7 |
| 63000 | 77.2 | 85.3 | 87.8 | 88.2 | 89.2 | 90.9 | 88.8 | 90.1 | 86.5 | 92.9 | 93.3 | 87.6 | 156.1 |
| 80000 | 71.2 | 81.7 | 85.5 | 85.9 | 84.7 | 87.8 | 84.7 | 85.4 | 84.0 | 90.4 | 83.3 | 72.4 | 159.7 |
| DBA | 192.9 | 202.8 | 206.3 | 206.7 | 206.0 | 208.8 | 205.9 | 206.7 | 204.8 | 211.2 | 211.3 | 204.5 | 194.2 |
| PWL | 121.5 | 125.3 | 124.9 | 129.0 | 124.2 | 125.2 | 128.6 | 129.6 | 125.9 | 134.7 | 136.8 | 137.3 | 135.8 |
| GASPL | 108.5 | 113.2 | 114.1 | 116.6 | 114.2 | 114.8 | 115.9 | 117.2 | 113.6 | 122.6 | 125.3 | 126.9 | 165.4 |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN CV SUPP NO2 SC-5/NAS3-22514

VEHICL = ADH178 TEST DATE = 6-30-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.30 RELHUM = 69.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR

FMINI = LBS XNL RPM XNH XNHR = RPM V8 = 2537.1 FPS AE8 = 19.9 SQ IN
FMRAMB = LBS XNLR RPM = XNHR = RPM V8 = 2537.1 FPS AE8 = 19.9 SQ IN

RUNPT = 82F-ZER-0545 TAPE = X0545F TEST PT NO = 0545 NC = AE049 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0545 X05451

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

63 67.7 71.7 73.1 82.4 75.9 77.7 79.9 81.6 78.9 91.6 94.5 93.4 89.0 169.0

60 67.5 72.3 75.1 83.9 77.7 79.2 81.4 82.9 79.1 92.4 94.7 94.4 89.7 169.7

100 71.0 73.9 76.2 85.0 78.5 80.3 81.5 84.5 81.0 92.0 94.0 94.0 89.4 169.5

125 74.8 76.7 78.5 85.3 79.1 80.6 82.8 84.8 81.3 91.3 92.1 92.9 88.1 168.5

160 71.6 73.5 75.3 82.1 75.9 77.7 79.5 81.4 83.2 84.9 81.6 90.1 90.8 87.3 167.9

200 71.7 73.6 75.5 82.4 76.0 77.8 79.6 81.5 83.4 85.2 87.0 88.8 89.5 85.2 167.3

250 71.8 73.7 75.6 82.5 76.1 77.9 79.7 81.6 83.5 85.3 87.1 88.9 89.6 85.2 166.7

315 71.6 73.5 75.4 82.4 76.0 77.8 79.6 81.5 83.4 85.2 87.0 88.8 89.5 85.2 166.2

400 71.5 73.4 75.3 82.3 75.9 77.7 79.5 81.4 83.3 85.1 86.9 88.7 89.4 85.1 166.4

500 69.8 71.7 73.6 80.6 74.6 76.5 78.3 80.1 81.9 83.7 85.5 87.3 89.1 85.7 165.7

630 72.7 74.6 76.5 83.5 78.0 80.0 81.8 83.6 85.4 87.2 89.0 90.8 92.6 89.0 165.7

800 74.5 76.4 78.3 85.3 80.0 82.0 83.8 85.6 87.4 89.2 91.0 92.8 94.6 91.0 167.0

1000 75.5 77.4 79.3 86.3 81.0 83.0 84.8 86.6 88.4 90.2 92.0 93.8 95.6 92.0 167.6

1250 73.2 75.1 77.0 84.0 78.7 80.7 82.5 84.3 86.1 87.9 89.7 91.5 93.3 90.0 168.1

1600 71.5 73.4 75.3 82.3 77.0 79.0 80.8 82.6 84.4 86.2 88.0 89.8 91.6 88.0 167.7

2000 68.4 70.3 72.2 79.2 74.0 76.0 77.8 79.6 81.4 83.2 85.0 86.8 88.6 85.0 167.1

2500 64.6 66.5 68.4 75.4 70.2 72.2 74.0 75.8 77.6 79.4 81.2 83.0 84.8 81.2 166.7

3150 58.8 60.7 62.6 69.6 64.4 66.4 68.2 70.0 71.8 73.6 75.4 77.2 79.0 75.4 167.7

4000 47.0 48.9 50.8 57.8 52.6 54.6 56.4 58.2 60.0 61.8 63.6 65.4 67.2 63.6 166.6

5000 34.2 36.1 38.0 45.0 40.0 42.0 43.8 45.6 47.4 49.2 51.0 52.8 54.6 51.0 166.6

6300 14.4 16.3 18.2 25.2 20.2 22.2 24.0 25.8 27.6 29.4 31.2 33.0 34.8 31.2 171.2

8000 6.2 7.1 8.0 15.0 10.0 12.0 14.0 16.0 18.0 20.0 22.0 24.0 26.0 22.0 174.6

10000 4.5 5.4 6.3 13.3 8.3 10.3 12.3 14.3 16.3 18.3 20.3 22.3 24.3 20.3 178.2

12500 3.9 4.8 5.7 12.7 7.7 9.7 11.7 13.7 15.7 17.7 19.7 21.7 23.7 19.7 183.7

16000 3.1 4.0 4.9 11.9 6.9 8.9 10.9 12.9 14.9 16.9 18.9 20.9 22.9 18.9 196.8

20000 2.6 3.5 4.4 11.4 6.4 8.4 10.4 12.4 14.4 16.4 18.4 20.4 22.4 18.4 204.3

25000 2.1 3.0 3.9 10.9 5.9 7.9 9.9 11.9 13.9 15.9 17.9 19.9 21.9 17.9 213.7

31500 1.7 2.6 3.5 10.4 5.4 7.4 9.4 11.4 13.4 15.4 17.4 19.4 21.4 17.4 222.2

40000 1.4 2.3 3.2 10.1 5.1 7.1 9.1 11.1 13.1 15.1 17.1 19.1 21.1 17.1 231.7

50000 1.1 2.0 2.9 10.0 5.0 7.0 9.0 11.0 13.0 15.0 17.0 19.0 21.0 17.0 241.2

63000 0.9 1.8 2.7 10.0 5.0 7.0 9.0 11.0 13.0 15.0 17.0 19.0 21.0 17.0 250.7

80000 0.7 1.6 2.5 10.0 5.0 7.0 9.0 11.0 13.0 15.0 17.0 19.0 21.0 17.0 260.2

100000 0.6 1.5 2.4 10.0 5.0 7.0 9.0 11.0 13.0 15.0 17.0 19.0 21.0 17.0 269.7

125000 0.5 1.4 2.3 10.0 5.0 7.0 9.0 11.0 13.0 15.0 17.0 19.0 21.0 17.0 279.2

160000 0.4 1.3 2.2 10.0 5.0 7.0 9.0 11.0 13.0 15.0 17.0 19.0 21.0 17.0 288.7

200000 0.3 1.2 2.1 10.0 5.0 7.0 9.0 11.0 13.0 15.0 17.0 19.0 21.0 17.0 298.2

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE

08/12/82 16.158 PAGE 1

| | | |
|------------------------|--------------|--------|
| IDENTIFICATION - MODEL | 82F-400-0546 | X0546C |
| BACKGROUND | X79F400B0400 | X05400 |

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | PWL | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 86.0 | 87.1 | 84.6 | 84.9 | 82.7 | 81.1 | 86.0 | 87.9 | 79.8 | 85.2 | 91.8 | 92.5 | 95.4 | 129.6 |
| 63 | 86.5 | 94.0 | 92.5 | 91.1 | 89.6 | 87.0 | 96.1 | 97.1 | 86.0 | 90.3 | 93.0 | 93.2 | 97.6 | 135.1 |
| 80 | 86.4 | 93.5 | 90.0 | 90.5 | 92.2 | 92.6 | 92.3 | 86.0 | 90.6 | 93.9 | 97.1 | 99.5 | 134.7 | |
| 100 | 87.7 | 94.5 | 90.3 | 88.9 | 91.9 | 92.0 | 93.8 | 93.4 | 85.9 | 93.3 | 101.4 | 103.8 | 137.1 | |
| 125 | 84.9 | 88.6 | 90.9 | 88.9 | 92.3 | 92.7 | 93.8 | 93.4 | 85.9 | 94.5 | 100.9 | 105.0 | 139.1 | |
| 150 | 83.5 | 81.8 | 87.6 | 88.6 | 87.4 | 87.6 | 96.4 | 89.8 | 85.6 | 95.6 | 101.8 | 105.4 | 139.7 | |
| 160 | 83.6 | 84.9 | 85.6 | 87.0 | 88.8 | 89.3 | 92.9 | 88.9 | 86.9 | 96.7 | 101.8 | 107.3 | 141.1 | |
| 200 | 83.6 | 85.6 | 85.8 | 85.8 | 87.5 | 88.8 | 91.2 | 93.9 | 89.3 | 101.1 | 107.3 | 110.7 | 143.9 | |
| 250 | 81.8 | 86.3 | 85.3 | 86.8 | 89.3 | 89.6 | 93.2 | 93.9 | 90.8 | 102.9 | 108.0 | 111.7 | 144.9 | |
| 315 | 81.5 | 85.3 | 86.8 | 89.6 | 88.2 | 89.6 | 93.8 | 93.9 | 90.8 | 102.9 | 108.0 | 111.7 | 144.9 | |
| 400 | 82.4 | 85.9 | 86.2 | 89.3 | 89.4 | 89.6 | 94.0 | 91.2 | 104.7 | 109.9 | 112.3 | 110.2 | 145.4 | |
| 500 | 82.4 | 85.9 | 86.2 | 89.3 | 89.4 | 89.6 | 94.0 | 91.2 | 104.7 | 109.9 | 112.3 | 110.2 | 145.4 | |
| 630 | 83.0 | 86.0 | 86.1 | 89.6 | 89.7 | 90.8 | 93.2 | 95.9 | 92.1 | 105.9 | 111.2 | 106.6 | 144.8 | |
| 800 | 85.1 | 86.7 | 88.7 | 89.8 | 90.3 | 92.2 | 93.8 | 97.2 | 94.7 | 106.5 | 109.7 | 102.7 | 144.0 | |
| 1000 | 87.3 | 88.1 | 89.8 | 91.2 | 92.6 | 94.8 | 97.4 | 106.4 | 107.8 | 106.0 | 106.0 | 97.6 | 142.7 | |
| 1250 | 85.8 | 90.8 | 91.1 | 99.1 | 91.7 | 93.3 | 95.9 | 96.6 | 95.8 | 105.4 | 106.3 | 95.7 | 141.6 | |
| 1500 | 86.5 | 89.9 | 91.4 | 100.5 | 93.3 | 94.7 | 96.9 | 100.5 | 96.9 | 105.9 | 104.2 | 97.5 | 141.5 | |
| 2000 | 88.5 | 89.9 | 91.4 | 100.5 | 93.3 | 94.7 | 96.9 | 100.5 | 96.9 | 105.9 | 104.2 | 97.5 | 141.5 | |
| 2500 | 89.8 | 91.3 | 92.4 | 100.4 | 93.8 | 96.1 | 97.8 | 100.9 | 97.3 | 105.6 | 103.9 | 96.2 | 141.4 | |
| 3150 | 90.9 | 92.7 | 93.0 | 101.2 | 95.1 | 97.1 | 99.5 | 102.2 | 98.3 | 105.6 | 103.9 | 95.6 | 142.2 | |
| 4000 | 92.0 | 93.1 | 94.3 | 101.8 | 95.4 | 97.1 | 99.7 | 102.8 | 98.2 | 105.8 | 103.1 | 95.9 | 142.5 | |
| 5000 | 93.5 | 97.6 | 103.2 | 96.6 | 98.3 | 100.7 | 103.5 | 100.0 | 107.8 | 104.9 | 98.0 | 98.0 | 144.3 | |
| 6300 | 100.4 | 102.4 | 103.7 | 97.9 | 98.4 | 101.7 | 104.8 | 100.6 | 107.7 | 106.0 | 100.3 | 94.8 | 145.6 | |
| 8000 | 100.7 | 104.3 | 105.0 | 101.0 | 100.4 | 101.8 | 105.1 | 101.6 | 109.1 | 107.4 | 100.4 | 96.3 | 147.3 | |
| 10000 | 99.7 | 103.1 | 105.9 | 105.4 | 104.2 | 103.7 | 104.9 | 102.7 | 109.3 | 107.8 | 102.5 | 97.1 | 148.8 | |
| 12500 | 99.3 | 101.4 | 104.3 | | | | | | | | | | | |

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0546 X05461

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.
PWL

| | | | | | | | | | | | | | | |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50 | 69.0 | 73.0 | 74.0 | 79.8 | 73.1 | 72.6 | 78.0 | 73.6 | 70.7 | 82.9 | 86.2 | 86.4 | 83.3 | 161.9 |
| 63 | 69.6 | 73.4 | 73.2 | 79.8 | 73.5 | 73.4 | 73.6 | 74.0 | 71.1 | 83.2 | 85.7 | 86.4 | 82.8 | 161.7 |
| 80 | 70.4 | 73.7 | 73.8 | 81.5 | 74.7 | 74.1 | 74.8 | 75.6 | 74.5 | 84.6 | 86.3 | 85.9 | 81.9 | 162.0 |
| 100 | 70.6 | 73.9 | 75.4 | 82.9 | 75.4 | 75.5 | 75.8 | 77.4 | 75.9 | 86.1 | 86.4 | 85.4 | 80.7 | 162.2 |
| 125 | 72.7 | 74.5 | 76.1 | 84.4 | 76.2 | 76.0 | 77.4 | 78.2 | 77.2 | 85.5 | 85.4 | 82.1 | 79.4 | 161.4 |
| 160 | 74.1 | 75.3 | 76.8 | 84.7 | 76.6 | 76.7 | 78.2 | 79.5 | 77.5 | 85.1 | 84.4 | 79.2 | 77.0 | 160.9 |
| 200 | 72.1 | 77.6 | 77.7 | 85.0 | 78.4 | 78.2 | 79.3 | 80.1 | 77.8 | 85.6 | 83.0 | 77.4 | 76.8 | 161.1 |
| 250 | 75.3 | 76.9 | 78.3 | 86.2 | 78.4 | 78.2 | 79.1 | 81.0 | 78.1 | 85.0 | 81.8 | 75.6 | 74.4 | 161.2 |
| 315 | 75.0 | 77.0 | 78.2 | 86.5 | 78.9 | 79.7 | 79.9 | 81.3 | 79.3 | 85.2 | 82.4 | 74.9 | 74.0 | 161.9 |
| 400 | 75.8 | 78.1 | 79.0 | 86.3 | 80.3 | 80.9 | 81.9 | 82.8 | 79.7 | 85.8 | 81.7 | 75.2 | 73.9 | 162.9 |
| 500 | 76.6 | 79.3 | 79.6 | 87.2 | 80.7 | 81.1 | 82.6 | 83.9 | 80.9 | 87.1 | 82.8 | 76.2 | 73.8 | 164.3 |
| 630 | 76.8 | 79.2 | 80.5 | 87.6 | 81.5 | 82.5 | 83.3 | 84.2 | 81.8 | 87.3 | 84.2 | 78.7 | 75.3 | 165.6 |
| 800 | 79.8 | 82.0 | 82.4 | 88.0 | 82.2 | 82.3 | 84.4 | 85.7 | 82.5 | 88.4 | 85.1 | 78.2 | 75.8 | 167.2 |
| 1000 | 80.5 | 84.4 | 84.3 | 87.4 | 85.8 | 84.2 | 84.2 | 85.7 | 84.1 | 89.0 | 85.8 | 80.3 | 75.9 | 168.8 |
| 1250 | 82.5 | 89.3 | 90.0 | 89.8 | 89.9 | 87.8 | 86.3 | 85.7 | 83.5 | 88.2 | 84.3 | 79.4 | 74.4 | 171.4 |
| 1600 | 80.4 | 89.5 | 89.2 | 89.3 | 89.5 | 87.3 | 85.9 | 82.0 | 85.6 | 82.0 | 85.6 | 76.2 | 70.2 | 171.4 |
| 2000 | 78.5 | 83.0 | 86.2 | 87.3 | 86.6 | 87.5 | 86.8 | 84.9 | 80.0 | 82.6 | 79.1 | 72.4 | 65.1 | 170.9 |
| 2500 | 73.0 | 80.1 | 82.5 | 83.6 | 84.1 | 84.3 | 84.7 | 82.4 | 78.4 | 81.0 | 76.4 | 68.5 | 58.8 | 170.7 |
| 3150 | 67.7 | 74.7 | 78.1 | 79.5 | 81.6 | 82.0 | 81.8 | 79.8 | 72.6 | 74.3 | 69.0 | 45.4 | 45.4 | 170.7 |
| 4000 | 57.2 | 66.3 | 71.8 | 73.6 | 73.3 | 74.3 | 73.6 | 71.4 | 67.3 | 67.2 | 61.0 | 47.8 | 28.1 | 170.1 |
| 5000 | 41.2 | 53.3 | 59.2 | 62.6 | 66.5 | 66.4 | 66.0 | 63.0 | 58.7 | 57.2 | 47.2 | 29.6 | 1.4 | 170.4 |
| 6300 | 21.4 | 37.5 | 45.6 | 50.0 | 54.2 | 54.3 | 52.8 | 48.8 | 44.2 | 41.9 | 27.0 | 0.7 | | 172.5 |
| 8000 | | | | | | | | | | | | | | 175.3 |
| 10000 | | | | | | | | | | | | | | 176.7 |

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QASPL 90.0 94.1 95.7 98.8 96.1 95.8 95.5 95.4 92.5 98.5 96.7 93.9 90.5 183.4
 PNLT 99.8 104.6 106.9 108.7 107.0 106.6 106.3 105.3 101.5 106.5 102.9 98.6 93.7
 DBA 89.4 93.9 95.8 97.3 96.1 95.8 95.1 94.4 91.3 95.9 92.4 86.6 82.6

MODEL AREA = 128.3 SQ CM (19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

VEHICL = ADH179 TEST DATE = 6-30-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLVEL = 400. FPS
 IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 73.00 PAMB HG = 29.35 RELHUM = 82.1 PCT
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIG = SL MIKE HT = NBFR

FMINI = LBS XNL RPM XNH XNHR = RPM V8 = 2518.2 FPS AE8 = 19.9 SQ IN
 FNRMB = LBS XNLR = RPM V8 = 2518.2 FPS AE18 = 0. SQ IN

RUNPT = 82F-400-0546 TAPE = X05461 TEST PT NO = 0546 NC = AE049 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1505
BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 77.3 | 82.6 | 84.8 | 79.4 | 81.7 | 78.1 | 87.2 | 81.6 | 73.8 | 75.2 | 82.3 | 85.7 | 85.4 |
| 63 | 80.2 | 91.5 | 93.8 | 87.3 | 90.9 | 85.8 | 97.1 | 89.8 | 80.3 | 82.8 | 85.5 | 90.4 | 89.1 |
| 80 | 81.7 | 86.5 | 83.2 | 82.8 | 82.9 | 85.0 | 86.4 | 85.3 | 78.2 | 83.8 | 86.2 | 89.9 | 90.8 |
| 100 | 81.7 | 87.5 | 83.5 | 83.6 | 85.9 | 86.1 | 86.1 | 80.5 | 86.6 | 90.7 | 84.2 | 96.1 | 130.1 |
| 125 | 79.6 | 83.6 | 85.4 | 84.4 | 86.3 | 86.2 | 87.8 | 86.9 | 81.4 | 87.7 | 93.6 | 98.0 | 132.3 |
| 160 | 78.8 | 78.0 | 83.8 | 83.3 | 83.2 | 83.6 | 89.2 | 84.6 | 80.1 | 86.9 | 93.5 | 97.9 | 100.6 |
| 200 | 78.3 | 82.6 | 83.9 | 86.9 | 84.0 | 85.1 | 89.0 | 88.7 | 83.6 | 89.7 | 95.3 | 100.3 | 102.7 |
| 250 | 78.5 | 85.3 | 83.3 | 87.9 | 84.2 | 86.3 | 89.2 | 89.1 | 84.6 | 92.9 | 99.5 | 104.0 | 105.6 |
| 315 | 79.3 | 84.3 | 85.3 | 89.1 | 86.7 | 87.1 | 90.2 | 90.1 | 86.1 | 94.1 | 99.5 | 103.7 | 105.9 |
| 400 | 79.4 | 83.9 | 84.7 | 89.2 | 85.8 | 86.9 | 93.1 | 90.5 | 85.9 | 95.7 | 100.6 | 104.3 | 105.0 |
| 500 | 80.7 | 83.7 | 84.8 | 86.8 | 87.2 | 89.9 | 91.0 | 86.5 | 96.1 | 100.7 | 103.1 | 102.8 | 137.1 |
| 630 | 81.3 | 84.8 | 86.3 | 90.6 | 87.7 | 88.3 | 90.2 | 91.4 | 86.8 | 97.4 | 100.8 | 102.2 | 136.9 |
| 800 | 84.1 | 86.7 | 88.0 | 92.0 | 88.1 | 89.5 | 90.8 | 93.2 | 88.7 | 97.8 | 101.2 | 101.1 | 136.9 |
| 1000 | 88.5 | 88.8 | 89.6 | 92.9 | 89.9 | 90.3 | 92.2 | 93.6 | 89.6 | 97.7 | 100.5 | 100.2 | 136.7 |
| 1250 | 85.0 | 90.0 | 89.8 | 92.9 | 89.9 | 91.3 | 92.9 | 93.6 | 89.3 | 97.6 | 100.5 | 99.6 | 136.8 |
| 1500 | 86.9 | 90.0 | 90.4 | 94.2 | 91.3 | 92.2 | 94.3 | 94.1 | 90.7 | 97.5 | 99.9 | 99.6 | 136.9 |
| 2000 | 87.0 | 90.9 | 91.4 | 94.2 | 90.8 | 91.9 | 93.9 | 95.2 | 90.9 | 98.4 | 99.4 | 99.5 | 137.1 |
| 2500 | 87.8 | 90.8 | 91.1 | 94.9 | 91.5 | 93.1 | 94.3 | 95.9 | 91.5 | 99.8 | 99.6 | 99.2 | 137.6 |
| 3150 | 88.9 | 92.9 | 92.7 | 96.5 | 92.3 | 93.9 | 96.0 | 97.0 | 93.1 | 100.4 | 100.8 | 99.8 | 139.0 |
| 4000 | 89.7 | 92.6 | 93.3 | 96.5 | 92.9 | 93.8 | 95.5 | 97.8 | 93.4 | 99.8 | 101.6 | 102.9 | 139.6 |
| 5000 | 95.3 | 97.0 | 96.4 | 97.4 | 93.6 | 95.1 | 96.7 | 98.3 | 94.2 | 101.6 | 103.9 | 105.5 | 141.8 |
| 6300 | 99.1 | 102.7 | 100.5 | 97.8 | 96.2 | 95.9 | 97.2 | 98.6 | 95.1 | 100.7 | 104.3 | 106.3 | 143.4 |
| 8000 | 100.5 | 105.1 | 104.4 | 99.6 | 99.6 | 97.9 | 97.3 | 98.7 | 96.6 | 100.7 | 103.2 | 105.5 | 144.7 |
| 10000 | 99.7 | 103.9 | 106.0 | 101.2 | 104.5 | 102.5 | 100.0 | 98.9 | 98.1 | 100.1 | 102.1 | 104.6 | 146.2 |
| 12500 | 98.9 | 100.8 | 103.3 | 100.4 | 104.7 | 102.0 | 100.1 | 97.2 | 98.1 | 100.3 | 103.2 | 102.7 | 146.4 |
| 16000 | 96.4 | 99.3 | 100.0 | 98.1 | 102.9 | 103.2 | 102.7 | 101.1 | 96.1 | 96.4 | 98.9 | 100.5 | 146.4 |
| 20000 | 94.2 | 96.5 | 97.9 | 97.0 | 100.5 | 101.6 | 101.9 | 99.6 | 94.1 | 94.4 | 97.2 | 98.5 | 146.5 |
| 25000 | 91.6 | 94.8 | 95.8 | 96.6 | 98.9 | 99.9 | 98.6 | 98.5 | 93.8 | 94.2 | 94.8 | 96.6 | 147.0 |
| 31500 | 86.2 | 90.6 | 90.1 | 91.1 | 93.9 | 95.0 | 93.5 | 88.9 | 86.9 | 90.1 | 91.3 | 92.1 | 147.1 |
| 40000 | 83.4 | 88.1 | 87.9 | 88.3 | 92.1 | 92.7 | 92.5 | 86.9 | 88.2 | 89.9 | 89.7 | 85.4 | 147.1 |
| 50000 | 81.4 | 85.6 | 85.7 | 86.7 | 90.0 | 90.7 | 89.7 | 88.7 | 84.9 | 86.2 | 87.9 | 82.3 | 149.3 |
| 63000 | 77.9 | 83.2 | 82.5 | 83.6 | 87.4 | 88.6 | 86.0 | 86.5 | 82.2 | 83.5 | 84.9 | 86.1 | 152.0 |
| 80000 | 71.4 | 80.3 | 79.8 | 81.2 | 83.4 | 84.8 | 81.9 | 81.7 | 78.7 | 79.2 | 81.7 | 80.8 | 155.0 |
| DBA | 105.0 | 108.8 | 108.7 | 107.5 | 106.3 | 106.0 | 106.8 | 107.9 | 104.3 | 110.9 | 113.2 | 114.4 | 113.7 |
| PNL | 117.9 | 121.5 | 121.1 | 120.5 | 119.2 | 118.7 | 120.9 | 121.4 | 117.3 | 124.3 | 126.9 | 128.4 | 128.1 |
| QASPL | 107.9 | 111.0 | 111.5 | 109.6 | 111.2 | 111.1 | 111.0 | 110.5 | 106.7 | 111.7 | 114.4 | 116.3 | 116.2 |
| DBA | 105.0 | 108.8 | 108.7 | 107.5 | 106.3 | 106.0 | 106.8 | 107.9 | 104.3 | 110.9 | 113.2 | 114.4 | 113.7 |

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICLE = ADH166 TEST DATE = 6-30-82
 IAPLHA = SB59 DEG WIND VEL = NO
 WIND DIR = SB59 MPH
 PNL AREA = FULL SPHERE
 EXT DIST = 40.0 FT
 EXT CNFIG = ARC
 MIKE HT = 29.25
 PAMB HG = 29.25
 RELHUM = 77.2 PCT
 NBFR = 0. FPS
 FLVEL = 0. FPS
 MODEL = AX
 PAMB HG = 29.25
 RELHUM = 77.2 PCT
 NBFR = 0. FPS

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OF POOR QUALITY

TEST PT NO = 1505
 NC = AE049
 CORR FAN SPEED = RPM
 LBS XNLR =
 LBS XNH =
 RPM XNH =
 RPM V8 =
 FPS AE8 =
 AE18 =
 19.9 SO IN
 0. SO IN

684

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

DATPROC - FLIRAN

08/12/82 16.168 PAGE 3

IDENTIFICATION - 82F-ZER-1505 X1505F
ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|
| 50 | 77.3 | 82.6 | 84.8 | 79.4 | 81.7 | 78.1 | 87.2 | 81.6 | 73.8 | 75.2 | 82.3 | 85.7 | 85.4 | 124.6 |
| 63 | 80.2 | 91.5 | 93.8 | 87.3 | 90.9 | 85.8 | 97.1 | 89.8 | 80.3 | 82.8 | 85.5 | 90.4 | 89.1 | 132.9 |
| 80 | 81.7 | 86.5 | 83.2 | 82.8 | 82.9 | 85.0 | 86.4 | 85.3 | 78.2 | 83.8 | 86.2 | 89.9 | 90.8 | 127.3 |
| 100 | 81.7 | 87.5 | 83.6 | 85.5 | 85.8 | 86.1 | 88.1 | 86.5 | 86.6 | 90.7 | 93.6 | 98.0 | 96.1 | 130.1 |
| 125 | 79.6 | 83.6 | 85.4 | 84.4 | 86.3 | 86.2 | 87.8 | 86.9 | 81.4 | 87.7 | 93.6 | 97.9 | 100.6 | 132.3 |
| 160 | 78.8 | 78.0 | 83.8 | 83.3 | 83.2 | 83.6 | 89.2 | 84.6 | 80.1 | 86.9 | 93.5 | 97.9 | 100.6 | 132.3 |
| 200 | 78.3 | 82.6 | 83.9 | 86.9 | 84.0 | 85.1 | 89.0 | 88.7 | 83.6 | 89.7 | 95.3 | 100.3 | 102.7 | 134.4 |
| 250 | 78.5 | 85.3 | 87.9 | 84.2 | 86.3 | 88.2 | 89.1 | 84.6 | 92.9 | 99.5 | 104.0 | 105.6 | 103.7 | 137.5 |
| 315 | 79.3 | 84.3 | 85.3 | 89.1 | 86.7 | 87.1 | 90.2 | 90.1 | 86.1 | 94.1 | 99.5 | 103.7 | 105.9 | 137.7 |
| 400 | 79.4 | 83.9 | 84.7 | 89.2 | 85.8 | 86.9 | 93.1 | 90.5 | 85.9 | 95.7 | 100.6 | 104.3 | 105.0 | 138.0 |
| 500 | 80.7 | 84.8 | 89.8 | 86.4 | 87.2 | 89.9 | 91.0 | 86.5 | 96.1 | 100.7 | 103.1 | 102.8 | 103.1 | 137.1 |
| 630 | 81.3 | 84.8 | 90.6 | 87.7 | 88.3 | 90.2 | 91.4 | 86.8 | 97.4 | 100.8 | 102.2 | 101.9 | 101.9 | 136.9 |
| 800 | 84.1 | 86.7 | 88.0 | 92.0 | 88.1 | 89.5 | 90.8 | 88.7 | 97.8 | 101.2 | 101.1 | 100.0 | 100.0 | 136.9 |
| 1000 | 86.5 | 88.8 | 89.6 | 92.9 | 89.2 | 90.3 | 92.2 | 93.6 | 89.6 | 97.7 | 100.5 | 100.2 | 98.4 | 136.7 |
| 1250 | 85.0 | 90.0 | 89.8 | 92.9 | 89.9 | 91.3 | 92.9 | 89.3 | 97.6 | 100.2 | 99.2 | 98.6 | 98.6 | 136.8 |
| 1600 | 86.9 | 90.0 | 90.4 | 94.2 | 91.3 | 94.3 | 94.1 | 90.7 | 97.5 | 99.9 | 99.6 | 98.6 | 98.6 | 136.9 |
| 2000 | 87.0 | 90.9 | 91.4 | 94.2 | 90.8 | 91.9 | 93.9 | 95.2 | 90.9 | 98.4 | 99.4 | 99.5 | 97.9 | 137.1 |
| 2500 | 87.8 | 90.8 | 91.1 | 94.9 | 91.5 | 93.1 | 94.3 | 95.9 | 91.5 | 99.8 | 99.6 | 97.9 | 97.9 | 137.6 |
| 3150 | 88.9 | 92.9 | 92.7 | 96.5 | 92.3 | 93.9 | 96.0 | 97.0 | 93.1 | 100.4 | 101.4 | 99.8 | 99.8 | 139.0 |
| 4000 | 89.7 | 92.6 | 93.3 | 96.5 | 92.9 | 93.8 | 95.5 | 97.8 | 93.4 | 99.8 | 101.6 | 102.9 | 101.7 | 139.6 |
| 5000 | 93.3 | 97.0 | 97.4 | 96.4 | 93.6 | 95.1 | 96.7 | 98.3 | 94.2 | 101.6 | 103.9 | 105.5 | 104.0 | 141.8 |
| 6300 | 99.1 | 102.7 | 100.5 | 97.8 | 96.2 | 95.9 | 97.2 | 98.6 | 95.1 | 100.7 | 104.3 | 106.1 | 104.3 | 143.4 |
| 8000 | 100.5 | 105.1 | 104.4 | 99.6 | 99.6 | 97.9 | 97.3 | 98.7 | 96.6 | 100.7 | 103.2 | 105.5 | 105.1 | 144.7 |
| 10000 | 99.7 | 103.9 | 106.0 | 101.2 | 104.5 | 102.5 | 100.0 | 98.9 | 98.1 | 100.1 | 102.1 | 104.6 | 104.4 | 146.2 |
| 12500 | 98.9 | 103.3 | 100.4 | 104.7 | 104.4 | 102.0 | 100.1 | 97.2 | 98.1 | 100.3 | 103.2 | 102.7 | 102.7 | 146.4 |
| 16000 | 96.4 | 99.3 | 100.0 | 98.1 | 102.9 | 103.2 | 102.7 | 101.1 | 96.1 | 96.4 | 98.9 | 100.5 | 100.0 | 146.4 |
| 20000 | 94.2 | 96.5 | 97.9 | 97.0 | 100.5 | 101.6 | 101.9 | 100.0 | 94.1 | 94.4 | 97.2 | 98.5 | 97.9 | 146.5 |
| 25000 | 91.6 | 94.8 | 95.5 | 95.9 | 98.6 | 99.6 | 99.6 | 93.8 | 94.2 | 94.8 | 96.6 | 94.4 | 94.4 | 147.0 |
| 31500 | 86.2 | 90.6 | 90.1 | 91.1 | 93.9 | 95.0 | 93.5 | 88.9 | 90.1 | 91.3 | 92.1 | 87.6 | 85.4 | 147.1 |
| 40000 | 83.4 | 88.1 | 87.9 | 88.3 | 92.1 | 92.7 | 92.5 | 86.9 | 88.2 | 89.9 | 89.7 | 85.4 | 85.4 | 147.1 |
| 50000 | 81.4 | 85.6 | 85.7 | 86.7 | 90.0 | 90.7 | 89.7 | 88.7 | 84.9 | 86.2 | 87.9 | 82.3 | 82.3 | 149.3 |
| 63000 | 77.9 | 83.2 | 82.5 | 83.6 | 87.4 | 88.6 | 86.0 | 86.5 | 82.2 | 83.5 | 84.9 | 86.1 | 79.8 | 152.0 |
| 80000 | 71.4 | 80.3 | 79.8 | 81.2 | 83.4 | 84.8 | 81.9 | 81.7 | 78.7 | 79.2 | 81.7 | 80.8 | 72.1 | 155.0 |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN CV SUPP NO2 SC-5/NAS3-22514

VEHICL = ADH166 TEST DATE = 6-30-82
IAPLHA = SB59 IEGA = NO
WIND DIR = DEG WIND VEL = MPH
LOCAT = C41 ANECH CH CONFIG = 5
TAMB F = FULL SPHERE EXT DIST = 40.0 FT
EXT CONFIG = ARC
MODEL = AX
PAMB HG = 29.25
RELHUM = 77.2 PCT
FLTVEL = 0. FPS
NBFR =

FMN1 = LBS XNL RPM XNH RPM
FMN1 = LBS XNL RPM XNH RPM
FMN1 = LBS XNL RPM XNH RPM

RUNPT = 82F-ZER-1505 TAPE = X1505F
TEST PT NO = 1505 NC = AE049
CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1505 X15051

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | PWL |
|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| 50 | 58.4 | 64.5 | 66.3 | 71.6 | 68.6 | 69.8 | 75.8 | 72.8 | 67.6 | 76.3 | 79.7 | 81.2 | 78.5 |
| 60 | 59.7 | 64.3 | 67.9 | 72.1 | 69.1 | 72.6 | 73.4 | 68.1 | 76.6 | 79.7 | 79.9 | 76.2 | 155.5 |
| 70 | 60.2 | 63.3 | 67.9 | 70.4 | 71.2 | 72.9 | 73.7 | 68.4 | 73.4 | 77.9 | 79.7 | 75.2 | 155.4 |
| 80 | 63.0 | 67.1 | 69.5 | 74.2 | 72.3 | 73.5 | 75.5 | 70.2 | 77.2 | 80.0 | 77.7 | 73.2 | 155.3 |
| 90 | 65.4 | 69.2 | 71.0 | 75.0 | 73.1 | 74.8 | 75.8 | 71.0 | 78.0 | 79.3 | 76.7 | 71.3 | 155.1 |
| 100 | 65.6 | 69.6 | 71.6 | 75.6 | 73.6 | 74.6 | 76.6 | 71.8 | 77.5 | 78.2 | 75.5 | 70.7 | 155.4 |
| 110 | 65.0 | 70.6 | 72.2 | 75.9 | 72.9 | 74.2 | 76.9 | 71.7 | 78.1 | 77.4 | 75.0 | 69.7 | 155.6 |
| 120 | 65.4 | 70.2 | 71.7 | 76.3 | 73.4 | 75.1 | 76.2 | 77.3 | 79.2 | 77.2 | 74.1 | 68.6 | 156.1 |
| 130 | 66.0 | 71.9 | 72.9 | 77.6 | 73.9 | 75.6 | 77.6 | 78.1 | 79.3 | 78.5 | 75.1 | 69.5 | 157.5 |
| 140 | 66.3 | 71.2 | 73.2 | 77.3 | 74.1 | 75.3 | 76.7 | 78.6 | 73.3 | 78.4 | 76.5 | 70.3 | 158.1 |
| 150 | 67.7 | 72.6 | 76.0 | 77.9 | 74.6 | 76.2 | 77.7 | 78.7 | 73.8 | 80.0 | 78.4 | 71.6 | 160.3 |
| 160 | 74.7 | 80.5 | 79.8 | 78.0 | 76.9 | 78.7 | 78.7 | 74.4 | 78.5 | 79.9 | 78.6 | 72.5 | 161.9 |
| 170 | 75.7 | 82.6 | 83.5 | 79.6 | 80.2 | 78.7 | 77.9 | 75.7 | 78.2 | 78.4 | 77.0 | 70.4 | 163.2 |
| 180 | 74.4 | 81.1 | 84.8 | 81.1 | 84.9 | 83.1 | 80.4 | 76.9 | 77.3 | 76.8 | 75.4 | 68.3 | 164.6 |
| 190 | 72.7 | 77.3 | 79.9 | 84.8 | 84.8 | 82.1 | 79.7 | 75.6 | 74.7 | 74.1 | 72.6 | 64.2 | 164.8 |
| 200 | 69.2 | 75.3 | 78.0 | 83.0 | 83.4 | 82.8 | 80.4 | 74.1 | 72.4 | 71.7 | 68.3 | 58.5 | 164.8 |
| 220 | 59.2 | 67.1 | 70.8 | 73.0 | 76.7 | 75.7 | 69.0 | 66.5 | 62.5 | 56.6 | 39.6 | 18.3 | 165.5 |
| 240 | 47.6 | 58.2 | 61.6 | 64.9 | 69.0 | 70.5 | 70.1 | 67.3 | 60.3 | 57.7 | 52.8 | 43.1 | 163.9 |
| 260 | 35.0 | 48.2 | 53.1 | 56.7 | 62.2 | 63.3 | 62.6 | 59.5 | 52.1 | 48.2 | 41.6 | 27.1 | 165.6 |
| 280 | 15.2 | 31.4 | 38.9 | 44.3 | 50.0 | 51.5 | 49.7 | 46.3 | 38.0 | 32.0 | 21.8 | 0.9 | 167.8 |
| 3000 | 8000 | 10000 | 12500 | 16000 | 20000 | 25000 | 31500 | 40000 | 50000 | 63000 | 80000 | DBA | |
| 82.3 | 88.2 | 90.2 | 89.7 | 91.3 | 91.3 | 91.3 | 91.0 | 90.3 | 85.6 | 90.2 | 90.9 | 89.4 | 84.7 |
| 90.2 | 95.8 | 99.0 | 99.6 | 101.8 | 102.4 | 102.3 | 100.7 | 94.9 | 96.5 | 96.2 | 96.2 | 94.0 | 87.3 |
| 90.2 | 96.4 | 99.5 | 99.6 | 101.8 | 102.9 | 102.3 | 100.7 | 95.5 | 97.1 | 96.2 | 96.2 | 95.1 | 88.3 |
| 81.7 | 87.8 | 90.1 | 88.3 | 91.5 | 91.4 | 90.3 | 88.9 | 84.2 | 86.3 | 86.2 | 84.5 | 77.9 | |

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MODEL AREA = 128.3 SQ CM (19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

NASA SHOCK CELL/20 EL ANN CV SUPP NO2 SC-5/NAS3-22514

VEHICL = ADH166 TEST DATE = 6-30-82 LOCAL AREA = C41 ANECH CH CONFIG = 5 MODEL = AX FLIVEL = 0. FPS
IAPLHA = SB59 DEQ WIND VEL = NO PWL AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.25 RELHUM = 77.2 PCT
WIND DIR = SB59 MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR

LBS XNL = RPM XNHR = RPM V8 = 1676.9 FPS AEB = 19.9 SQ IN
LBS XNLR = RPM XNHR = RPM V8 = 1676.9 FPS AEB = 19.9 SQ IN

ZER-1505 TAPE = X15051 TEST PT NO = 1505 NC = AE049 CORR FAN SPEED = RPM

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1507 X1507C

BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 76.3 | 81.6 | 84.8 | 78.1 | 80.7 | 76.3 | 86.5 | 81.1 | 74.3 | 74.9 | 82.0 | 83.5 | 85.1 | 123.8 |
| 63 | 78.7 | 91.7 | 94.3 | 87.3 | 90.1 | 83.5 | 97.1 | 90.3 | 83.0 | 83.3 | 83.0 | 84.9 | 88.3 | 132.8 |
| 80 | 81.7 | 87.0 | 83.5 | 84.0 | 83.4 | 84.7 | 86.6 | 86.5 | 80.0 | 85.1 | 86.7 | 90.4 | 91.3 | 127.9 |
| 100 | 82.2 | 87.7 | 83.5 | 84.1 | 85.6 | 85.8 | 87.8 | 88.1 | 80.8 | 87.8 | 91.7 | 95.4 | 96.6 | 130.7 |
| 125 | 80.1 | 83.4 | 86.2 | 84.7 | 86.8 | 86.7 | 87.8 | 87.2 | 81.7 | 88.7 | 94.4 | 98.3 | 99.7 | 132.7 |
| 150 | 79.0 | 78.3 | 83.8 | 83.1 | 83.4 | 83.6 | 89.9 | 84.6 | 80.3 | 87.6 | 94.0 | 98.2 | 101.1 | 132.7 |
| 200 | 78.8 | 82.9 | 83.9 | 87.7 | 84.8 | 85.6 | 89.5 | 89.2 | 83.9 | 90.9 | 96.1 | 101.0 | 103.4 | 135.1 |
| 250 | 78.3 | 85.3 | 83.1 | 87.9 | 84.7 | 86.6 | 89.6 | 84.6 | 94.1 | 100.3 | 104.5 | 105.6 | 106.4 | 137.9 |
| 315 | 79.5 | 84.6 | 85.1 | 89.4 | 87.2 | 87.3 | 90.7 | 90.4 | 86.3 | 95.4 | 99.8 | 104.2 | 106.4 | 138.2 |
| 400 | 79.6 | 84.2 | 84.7 | 89.7 | 86.6 | 87.2 | 93.6 | 91.0 | 86.7 | 97.7 | 101.1 | 104.8 | 105.7 | 138.7 |
| 500 | 80.9 | 85.0 | 86.4 | 87.5 | 86.4 | 87.5 | 90.4 | 90.8 | 87.5 | 97.8 | 100.7 | 103.8 | 103.8 | 137.8 |
| 630 | 81.8 | 85.3 | 86.8 | 91.4 | 87.7 | 89.1 | 90.4 | 92.1 | 87.1 | 99.1 | 101.3 | 102.9 | 102.6 | 137.7 |
| 800 | 84.1 | 86.9 | 88.0 | 92.5 | 88.3 | 89.7 | 91.1 | 93.7 | 89.5 | 99.0 | 101.4 | 101.3 | 100.5 | 137.3 |
| 1000 | 86.5 | 88.1 | 89.8 | 92.9 | 90.3 | 92.5 | 94.1 | 90.1 | 98.9 | 100.3 | 101.2 | 99.1 | 137.1 | |
| 1250 | 84.8 | 90.3 | 89.8 | 93.4 | 90.4 | 91.8 | 93.2 | 94.1 | 89.6 | 99.4 | 100.8 | 99.7 | 137.5 | |
| 1500 | 87.4 | 90.5 | 90.4 | 94.2 | 91.3 | 91.9 | 94.3 | 94.8 | 90.7 | 99.0 | 100.1 | 100.6 | 99.3 | 137.5 |
| 2000 | 87.0 | 90.9 | 91.4 | 95.0 | 91.1 | 92.4 | 93.9 | 95.5 | 90.9 | 99.6 | 99.4 | 99.7 | 98.7 | 137.5 |
| 2500 | 87.8 | 90.8 | 91.6 | 94.9 | 92.3 | 92.9 | 94.8 | 96.4 | 91.5 | 101.3 | 99.8 | 100.2 | 98.4 | 138.3 |
| 3150 | 89.1 | 93.4 | 93.0 | 96.5 | 92.8 | 94.1 | 95.8 | 97.2 | 93.1 | 101.4 | 100.9 | 101.3 | 100.1 | 139.3 |
| 4000 | 90.0 | 92.9 | 93.8 | 96.8 | 93.1 | 94.1 | 96.0 | 98.0 | 93.4 | 101.6 | 102.1 | 103.2 | 102.2 | 140.2 |
| 5000 | 95.0 | 98.3 | 97.1 | 97.9 | 93.8 | 95.3 | 96.7 | 98.0 | 94.7 | 103.7 | 103.5 | 104.5 | 104.2 | 142.1 |
| 6300 | 99.1 | 102.9 | 101.3 | 98.5 | 96.7 | 95.9 | 97.2 | 99.4 | 95.6 | 102.7 | 103.8 | 106.8 | 106.3 | 143.8 |
| 8000 | 100.3 | 105.1 | 100.3 | 100.1 | 98.1 | 97.3 | 99.2 | 96.9 | 102.2 | 103.5 | 105.7 | 105.9 | 105.1 | 145.1 |
| 10000 | 99.7 | 103.7 | 104.5 | 104.5 | 103.2 | 100.2 | 99.2 | 99.1 | 101.6 | 103.1 | 105.4 | 104.6 | 104.6 | 146.5 |
| 12500 | 98.2 | 100.3 | 104.3 | 100.1 | 104.9 | 104.9 | 102.5 | 100.4 | 97.4 | 99.6 | 100.6 | 102.9 | 102.9 | 146.7 |
| 15000 | 95.9 | 99.5 | 100.7 | 98.1 | 103.2 | 103.4 | 103.5 | 101.1 | 95.6 | 98.2 | 98.6 | 101.2 | 100.0 | 146.7 |
| 20000 | 94.2 | 96.5 | 98.4 | 97.2 | 100.3 | 101.1 | 102.1 | 100.5 | 94.1 | 96.1 | 97.2 | 98.5 | 97.4 | 146.5 |
| 25000 | 91.6 | 94.3 | 96.8 | 95.8 | 99.1 | 99.7 | 99.8 | 99.1 | 94.0 | 95.9 | 93.6 | 93.6 | 147.3 | |
| 31500 | 85.9 | 90.1 | 92.1 | 91.1 | 93.9 | 95.5 | 94.7 | 94.0 | 88.9 | 92.1 | 91.3 | 91.8 | 88.3 | 145.7 |
| 40000 | 83.1 | 87.9 | 90.4 | 88.3 | 91.8 | 93.2 | 93.0 | 91.4 | 86.9 | 89.9 | 89.6 | 90.0 | 85.6 | 147.6 |
| 50000 | 80.6 | 84.6 | 88.2 | 86.7 | 89.7 | 90.7 | 88.9 | 88.5 | 84.6 | 87.7 | 87.2 | 87.9 | 82.6 | 149.5 |
| 63000 | 77.4 | 82.7 | 86.2 | 84.1 | 87.4 | 88.4 | 86.4 | 85.3 | 82.4 | 85.3 | 84.7 | 85.3 | 78.8 | 152.4 |
| 80000 | 72.2 | 80.8 | 83.3 | 81.2 | 83.2 | 84.6 | 82.4 | 82.4 | 79.5 | 82.4 | 82.4 | 82.8 | 74.1 | 155.7 |
| DBA | 104.9 | 108.9 | 109.2 | 107.9 | 106.6 | 106.3 | 106.9 | 108.2 | 104.7 | 112.4 | 113.3 | 114.9 | 114.3 | |
| PWL | 117.9 | 121.8 | 121.6 | 120.9 | 119.4 | 119.0 | 121.0 | 121.7 | 117.6 | 125.8 | 126.9 | 128.8 | 128.5 | |
| PNL | 117.9 | 121.8 | 121.6 | 120.9 | 119.4 | 119.0 | 120.5 | 121.7 | 117.6 | 125.8 | 126.9 | 128.8 | 128.5 | |
| QASPL | 107.2 | 111.0 | 112.2 | 109.9 | 111.4 | 111.3 | 111.3 | 110.8 | 107.0 | 113.2 | 114.5 | 116.7 | 116.7 | 160.6 |

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICL = ADH167 TEST DATE = 6-30-82
IAPLHA = SB59
WIND DIR = DEG WIND VEL = MPH
PWL AREA = FULL SPHERE
EXT DIST = 40.0 FT
TAMB F = 71.00
EXT CNF1G = ARC
MODEL = AX
PAMB HG = 29.25
RELHUM = 77.2 PCT
FLTVEL = 0. FPS
NBFR =

FINI1 = LBS XNL = RPM XNH = RPM V8 = 1689.9 FPS AE8 = 19.9 SO IN
FMRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1689.9 FPS AE18 = 0. SO IN

RUNPT = 82F-ZER-1507 TAPE = X1507C TEST PT NO = 1507 NC = AE049 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1507 X1507F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PWL | 80 | 81.7 | 87.0 | 83.5 | 84.0 | 83.4 | 84.7 | 86.6 | 86.5 | 81.1 | 74.3 | 74.9 | 82.0 |
| 50 | 76.3 | 81.6 | 84.8 | 78.1 | 80.7 | 76.3 | 86.5 | 81.1 | 74.3 | 74.9 | 82.0 | 83.5 | 85.1 |
| 63 | 78.7 | 91.7 | 87.3 | 90.1 | 83.5 | 97.1 | 83.0 | 83.3 | 83.0 | 84.9 | 88.3 | 132.8 | |
| 80 | 81.7 | 87.0 | 83.5 | 84.0 | 83.4 | 84.7 | 86.6 | 86.5 | 80.0 | 85.1 | 86.7 | 90.1 | 91.3 |
| 100 | 82.2 | 87.7 | 83.5 | 84.1 | 85.6 | 85.8 | 86.6 | 86.1 | 80.8 | 87.8 | 91.7 | 95.4 | 96.6 |
| 125 | 80.1 | 83.4 | 86.2 | 84.7 | 86.9 | 86.7 | 87.8 | 87.2 | 81.7 | 88.7 | 94.4 | 98.3 | 99.7 |
| 150 | 79.0 | 78.3 | 83.8 | 83.1 | 83.4 | 83.6 | 89.9 | 84.6 | 80.3 | 87.6 | 94.0 | 98.2 | 101.1 |
| 200 | 78.8 | 82.9 | 83.9 | 87.7 | 84.8 | 85.6 | 89.5 | 89.2 | 83.9 | 90.9 | 96.1 | 101.0 | 103.4 |
| 250 | 78.3 | 85.3 | 83.1 | 87.9 | 84.7 | 86.6 | 88.5 | 89.6 | 84.6 | 94.1 | 100.3 | 104.5 | 105.6 |
| 315 | 79.5 | 84.6 | 85.1 | 89.4 | 87.2 | 87.3 | 90.7 | 90.4 | 86.3 | 95.4 | 99.8 | 104.2 | 106.4 |
| 400 | 79.6 | 84.2 | 84.7 | 89.7 | 86.6 | 87.2 | 93.6 | 91.0 | 86.7 | 97.7 | 101.1 | 104.8 | 105.7 |
| 500 | 80.9 | 84.0 | 85.0 | 90.5 | 86.4 | 87.5 | 90.4 | 90.8 | 87.5 | 97.8 | 100.7 | 103.9 | 103.8 |
| 630 | 81.8 | 85.3 | 86.6 | 91.4 | 87.7 | 89.1 | 90.4 | 92.1 | 87.1 | 99.1 | 101.3 | 102.9 | 102.6 |
| 800 | 84.1 | 86.9 | 88.0 | 92.5 | 88.3 | 89.7 | 91.1 | 93.7 | 89.5 | 99.0 | 101.4 | 100.5 | 137.3 |
| 1000 | 86.5 | 88.1 | 89.8 | 92.9 | 89.5 | 90.3 | 92.5 | 94.1 | 90.1 | 98.9 | 100.3 | 101.2 | 99.1 |
| 1250 | 84.8 | 90.3 | 89.8 | 93.4 | 90.4 | 91.8 | 93.2 | 94.1 | 89.6 | 99.4 | 100.8 | 100.9 | 99.7 |
| 1500 | 87.4 | 90.5 | 90.4 | 94.2 | 91.3 | 91.9 | 94.3 | 90.7 | 99.0 | 100.6 | 99.7 | 99.3 | 137.5 |
| 2000 | 87.0 | 90.9 | 91.4 | 95.0 | 91.1 | 92.4 | 93.9 | 95.5 | 90.9 | 99.6 | 99.4 | 99.7 | 137.5 |
| 2500 | 87.8 | 90.8 | 91.6 | 94.9 | 92.3 | 92.9 | 94.8 | 96.4 | 91.5 | 101.3 | 99.8 | 100.2 | 138.3 |
| 3150 | 89.1 | 93.4 | 93.0 | 96.5 | 92.8 | 94.1 | 95.8 | 97.2 | 93.1 | 101.4 | 100.9 | 101.3 | 139.3 |
| 4000 | 90.0 | 92.9 | 93.8 | 96.8 | 93.1 | 94.1 | 96.0 | 98.0 | 93.4 | 101.6 | 102.2 | 102.2 | 140.2 |
| 5000 | 95.0 | 98.3 | 97.1 | 97.9 | 93.8 | 95.3 | 96.7 | 98.0 | 94.7 | 103.1 | 103.7 | 105.5 | 142.1 |
| 6300 | 99.1 | 102.9 | 101.3 | 98.5 | 96.7 | 95.9 | 97.2 | 99.4 | 95.6 | 102.7 | 103.8 | 106.8 | 143.8 |
| 8000 | 100.3 | 105.2 | 100.3 | 100.1 | 98.1 | 98.1 | 97.3 | 99.2 | 96.9 | 102.2 | 103.5 | 105.7 | 145.1 |
| 10000 | 99.7 | 103.7 | 106.2 | 101.5 | 104.5 | 103.0 | 100.2 | 99.2 | 99.1 | 101.6 | 103.1 | 105.4 | 146.5 |
| 12500 | 98.2 | 100.3 | 104.3 | 100.1 | 104.9 | 102.5 | 100.4 | 97.4 | 99.6 | 100.6 | 103.4 | 102.9 | 146.7 |
| 15000 | 95.9 | 99.5 | 100.7 | 98.1 | 103.2 | 103.4 | 101.1 | 95.6 | 98.2 | 98.6 | 101.2 | 100.0 | 146.7 |
| 20000 | 94.2 | 96.5 | 98.4 | 97.2 | 100.3 | 101.1 | 102.1 | 94.1 | 96.1 | 97.2 | 98.5 | 97.4 | 146.5 |
| 25000 | 91.6 | 94.3 | 96.8 | 95.9 | 99.1 | 99.7 | 99.8 | 99.1 | 94.0 | 95.9 | 95.3 | 93.6 | 147.3 |
| 31500 | 85.9 | 90.1 | 92.1 | 91.1 | 93.9 | 95.5 | 94.7 | 94.0 | 88.9 | 92.1 | 91.3 | 88.3 | 145.7 |
| 40000 | 83.1 | 87.9 | 90.4 | 88.3 | 91.8 | 93.2 | 93.0 | 89.6 | 89.9 | 87.7 | 87.2 | 85.6 | 147.6 |
| 50000 | 80.6 | 84.6 | 88.2 | 86.7 | 89.7 | 90.7 | 89.9 | 88.5 | 84.6 | 87.7 | 87.2 | 82.6 | 149.5 |
| 63000 | 77.4 | 82.7 | 86.2 | 84.1 | 87.4 | 88.1 | 86.8 | 87.0 | 82.4 | 85.3 | 84.7 | 85.3 | 152.4 |
| 80000 | 72.2 | 80.8 | 83.3 | 81.2 | 83.2 | 84.6 | 82.4 | 82.4 | 79.5 | 82.4 | 82.4 | 82.8 | 155.7 |
| DBA | 193.7 | 201.5 | 204.2 | 202.1 | 204.4 | 205.6 | 203.7 | 203.7 | 200.4 | 203.3 | 203.2 | 203.7 | 195.5 |
| PNL | 117.9 | 121.8 | 121.6 | 120.9 | 119.4 | 119.0 | 121.0 | 121.7 | 117.6 | 125.8 | 126.9 | 128.8 | 128.5 |
| DBA | 193.7 | 201.5 | 204.2 | 202.1 | 204.4 | 205.6 | 203.7 | 203.7 | 200.4 | 203.3 | 203.2 | 203.7 | 195.5 |

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OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES
NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514
VEHICL = ADH167 TEST DATE = 6-30-82 LOCAL = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.25 RELHUM = 77.2 PCT
WIND DIR = SB59 DEG WIND VEL = NO MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR
LBS XNL = RPM XNH = RPM XNHR = RPM V8 = 1689.9 FPS AE8 = 19.9 SQ IN AE18 = 0. SQ IN
ZER-1507 TAPE = X1507F TEST PT NO = 1507 NC = AE049 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1507 X15071

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

58.7 64.7 66.8 72.1 69.3 70.1 76.3 73.3 68.3 78.3 80.2 81.7 79.2 157.2

63 60.0 64.5 66.6 72.9 69.1 70.4 73.1 73.1 69.1 78.4 79.7 80.7 156.2

80 60.7 65.8 68.4 73.7 70.4 71.9 73.2 74.4 68.6 79.6 80.2 79.7 156.2

100 63.0 67.4 69.5 74.7 71.0 72.5 73.8 76.0 71.0 79.5 80.3 78.0 155.8

125 65.3 68.4 71.3 75.0 72.1 73.1 75.1 76.3 71.5 79.3 79.1 77.7 155.6

160 63.3 70.5 71.1 75.4 72.9 74.4 75.7 76.1 70.9 79.6 79.3 77.2 156.0

200 65.7 70.5 71.6 76.1 73.6 74.4 76.6 76.7 71.8 79.0 78.5 76.5 156.0

250 65.0 70.6 72.2 76.7 73.2 74.7 76.0 77.2 71.7 79.3 77.4 75.2 156.0

315 65.4 70.2 72.2 76.3 74.1 74.9 76.7 77.8 72.1 80.7 77.4 75.1 156.7

400 66.2 72.4 73.2 77.6 74.4 75.8 77.3 78.3 73.3 80.3 78.0 75.6 157.8

500 66.6 71.5 73.7 77.6 74.4 75.5 77.2 78.8 73.3 80.2 78.7 76.8 158.7

630 71.2 76.5 76.7 78.4 74.8 76.5 77.7 78.5 74.3 81.3 79.8 78.4 160.6

800 74.7 80.7 80.5 82.6 80.4 80.7 78.9 77.9 79.2 75.9 79.7 78.6 163.6

1000 75.4 82.6 84.2 80.4 80.7 78.9 77.9 79.2 75.9 79.7 78.6 77.3 163.6

1250 74.4 80.8 85.0 81.3 84.9 80.6 79.0 79.0 78.8 77.8 76.1 68.5 165.0

1600 72.0 76.8 82.7 79.7 85.1 83.3 82.6 79.9 75.8 76.2 74.4 72.8 165.2

2000 68.7 75.5 78.7 77.4 83.2 83.7 80.4 79.1 71.2 70.9 68.3 63.5 165.0

2500 65.2 71.3 75.5 79.8 80.8 81.6 79.1 71.2 70.9 68.3 63.5 51.0 165.0

3150 59.2 66.6 72.0 73.0 77.2 78.1 77.9 76.2 69.3 68.0 56.9 38.8 165.8

4000 47.4 57.7 63.6 64.9 69.0 71.0 69.8 67.8 60.3 59.7 52.8 42.9 164.2

5000 34.8 47.9 55.6 56.7 61.9 63.8 63.1 59.8 52.1 49.9 41.3 27.3 166.0

6300 14.5 30.4 41.4 44.3 49.8 51.5 50.0 46.1 37.8 33.5 21.1 1.1 168.0

8000 170.9 174.2

10000 170.9 174.2

12500 170.9 174.2

15000 170.9 174.2

17500 170.9 174.2

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1511 X1511C

BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 77.0 83.1 81.8 77.4 79.7 79.1 87.2 78.1 75.3 76.7 83.3 87.0 86.1 124.3

60 79.5 93.7 93.3 86.6 90.4 85.5 97.1 87.1 81.5 86.7 86.7 83.3 86.1 124.3

80 82.2 87.2 83.7 83.5 83.9 85.5 86.9 86.0 79.2 85.6 87.2 90.6 91.8 128.1

100 82.2 88.0 84.3 84.6 86.6 86.5 86.9 88.8 81.0 87.3 91.5 95.2 96.8 130.9

125 80.6 83.9 86.7 84.9 87.3 87.4 88.5 87.7 82.2 89.2 94.6 98.8 100.5 133.2

160 79.5 78.3 84.3 83.8 83.9 84.3 89.9 85.6 80.6 88.1 94.5 98.4 101.6 133.2

200 78.8 82.4 84.6 87.2 84.3 86.1 89.8 88.4 83.9 90.7 96.1 101.0 103.7 135.2

250 78.8 86.1 83.8 88.6 87.1 89.0 90.1 85.3 95.4 100.8 105.0 106.4 138.5

315 79.8 84.3 85.3 89.4 87.2 87.6 90.7 86.6 95.9 100.3 105.0 106.9 138.7

400 80.1 84.7 85.4 86.5 86.6 87.4 90.7 86.9 98.0 101.1 105.1 106.2 139.0

500 80.9 84.5 85.5 86.9 88.0 90.1 91.0 87.3 97.8 101.5 104.6 104.3 138.3

600 84.4 87.2 88.5 89.7 89.1 90.9 92.4 87.6 99.1 101.3 102.7 102.6 137.7

800 84.4 87.2 88.5 89.7 89.1 90.9 92.4 87.6 99.1 101.3 102.7 102.6 137.7

1000 87.0 88.6 89.8 93.4 89.5 90.8 92.7 93.6 89.8 99.7 101.3 101.5 99.6 137.6

1250 85.0 90.3 90.1 93.6 90.9 92.1 93.2 94.6 90.3 99.9 101.3 100.9 100.5 137.9

1600 87.4 90.5 91.2 94.7 92.1 92.7 94.8 95.6 91.2 99.3 100.9 100.3 99.6 137.9

2000 87.8 91.2 91.9 95.2 91.6 92.7 94.7 96.2 91.4 99.9 100.4 99.7 99.2 138.0

2500 88.3 91.3 91.9 96.2 92.3 93.6 94.8 96.4 92.3 101.1 100.3 99.9 98.7 138.5

3150 90.1 93.4 93.1 97.0 93.1 94.4 96.5 97.5 93.3 101.4 101.8 102.7 101.9 140.2

4000 90.2 93.6 94.0 97.3 93.4 94.6 96.7 98.5 93.8 101.3 101.8 102.7 101.9 140.2

5000 96.3 98.3 97.6 97.9 94.1 95.3 97.2 98.8 95.0 103.1 104.4 105.2 104.5 142.4

6300 99.9 103.7 102.5 98.8 97.4 96.1 97.7 99.1 96.1 102.7 104.5 106.1 106.8 144.2

8000 100.5 105.6 100.6 100.6 98.1 98.1 98.1 99.2 97.6 101.9 103.5 105.4 105.3 145.3

10000 100.0 103.7 106.5 102.0 105.2 103.7 100.7 99.2 99.1 101.1 102.9 104.6 104.9 146.7

12500 98.2 101.0 104.1 100.4 104.9 105.2 102.7 100.9 97.2 99.1 100.6 102.4 102.7 146.8

16000 95.7 99.5 100.7 98.6 102.9 104.2 103.7 101.8 96.1 97.7 98.9 100.5 100.3 146.9

20000 93.7 96.8 98.2 97.0 100.0 101.3 101.6 100.0 94.1 95.9 97.2 97.8 97.7 146.3

25000 91.3 94.8 96.8 95.7 98.3 99.4 100.1 98.8 93.5 95.4 94.8 95.9 94.1 147.1

31500 85.7 90.1 91.6 90.8 93.6 95.0 94.7 94.0 89.4 91.4 91.6 91.1 87.8 145.5

40000 83.1 87.6 90.1 88.8 92.1 92.9 92.3 91.6 86.7 88.9 89.7 85.4 85.4 147.4

50000 80.9 85.6 88.0 86.7 89.7 90.7 89.7 89.0 84.6 86.7 87.7 86.6 82.8 149.4

63000 77.4 82.9 85.5 84.4 87.4 88.3 86.3 86.5 82.4 84.3 84.7 84.3 79.8 152.2

80000 71.9 80.8 84.0 81.4 83.7 85.3 82.9 82.2 78.7 80.7 82.7 81.6 74.6 155.9

QASPL 107.5 111.4 112.4 110.2 111.6 111.7 111.5 111.0 107.2 113.2 114.9 116.6 117.0 160.6

PNL 118.5 122.3 122.1 121.3 119.9 119.6 120.9 122.0 118.0 125.8 127.4 128.6 128.8

DBA 105.5 109.3 109.7 108.3 107.2 106.9 107.3 108.5 105.1 112.5 113.8 114.6 114.4

NASA SHOCK CELL/20 EL ANN CV SUPP NO2 SC-5/NAS3-22514

VEHICLE = ADH168 TEST DATE = 6-30-82 LOCAL = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVL = 0. FPS
WIND DIR = SB59 DEG WIND VEL = MPH PWL AREA = FULL SPHERE EXT DIST = 40.0 FT TAMB F = 71.00 PAMB HG = 29.25 RELHUM = 77.2 PCT

UNIT = LBS XNL RPM XNHR RPM = = RPM V8 = 1698.1 FPS AE8 = 19.9 SO IN
CORR FAN SPEED = RPM

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OF POOR QUALITY

ANGLES MEASURED FROM INLET, DEGREES

[illegible][illegible]

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

| | | | | | | | | | | | | | | | | | |
|----------|---|--------|-----------|---|---------|----------|---|--------------|------------|---|-------|---------|---|-------|--------|---|----------|
| VEHICL | = | ADH168 | TEST DATE | = | 6-30-82 | LOCAT | = | C41 ANECH CH | CONFIG | = | 5 | MODEL | = | AX | FLTVEL | = | 0. FPS |
| IAPLHA | = | SB59 | LEGA | = | NO | PWL AREA | = | FULL SPHERE | TAMB F | = | 71.00 | PAMB HG | = | 29.25 | RELHUM | = | 77.2 PCT |
| WIND DIR | = | | WIND VEL | = | | EXT DIST | = | 40.0 FT | EXT CONFIG | = | ARC | MIKE HT | = | | NBFR | = | |

| | | | | | | | | | | | | | | | |
|----------------------|---|-----|------|-----|------|---|-----|-----|---|--------|-----|------|---|------|-------|
| FNIN1 | = | LBS | XNL | RPM | XNH | = | RPM | V8 | = | 1698.1 | FPS | AE8 | = | 19.9 | SO IN |
| FMRAMB | = | LBS | XNLR | RPM | XNHR | = | RPM | V18 | = | | FPS | AE18 | = | 0. | SO IN |
| RUNPT = 82F-ZER-1511 | | | | | | | | | | | | | | | |
| TAPE = X1511F | | | | | | | | | | | | | | | |
| TEST PT NO = 1511 | | | | | | | | | | | | | | | |
| NC = AE049 | | | | | | | | | | | | | | | |
| CORR FAN SPEED = | | | | | | | | | | | | | | | |
| RPM | | | | | | | | | | | | | | | |

| | |
|----------|---------|
| ORIGINAL | PAGE 13 |
| OF POOR | QUALITY |

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1511 X15111

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 59.2 65.2 67.1 71.6 69.3 70.3 76.8 73.1 68.6 78.6 80.2 81.9 79.7 157.4

63 60.0 65.0 67.1 72.6 69.6 70.9 72.9 73.4 68.9 78.4 80.5 81.4 77.7 156.7

80 60.7 66.3 68.9 73.7 70.4 71.9 73.7 74.7 69.1 79.6 80.2 79.4 75.9 156.2

100 63.3 67.6 70.0 75.0 71.5 72.5 74.3 76.2 71.0 79.7 80.6 78.2 73.7 156.1

125 65.8 68.9 71.3 75.5 72.1 73.6 75.3 75.8 71.3 80.0 80.1 77.9 72.6 156.1

160 63.6 70.5 71.4 75.6 73.4 74.7 75.7 76.6 71.6 80.1 79.8 77.2 73.0 156.4

200 65.7 70.5 72.3 76.6 74.4 75.1 77.1 77.5 72.3 79.2 79.2 76.2 71.7 156.4

250 65.8 70.9 72.7 76.9 73.7 75.0 76.8 77.9 72.2 79.6 78.4 75.2 70.7 156.5

315 67.2 70.7 72.5 77.6 74.1 75.6 76.7 77.8 72.9 80.4 77.9 74.8 69.3 156.9

400 67.2 72.4 73.4 78.1 74.6 76.1 78.1 78.6 73.5 80.3 79.0 75.1 69.7 158.0

500 66.8 72.2 73.9 78.1 74.6 76.0 77.0 79.3 73.8 79.9 78.5 76.3 70.6 158.6

630 72.4 76.5 77.2 78.4 75.1 76.5 78.2 79.2 74.6 81.3 80.5 78.2 72.1 160.8

800 75.7 78.5 81.8 79.0 78.2 77.1 78.4 79.3 75.4 80.5 78.3 73.3 70.7 162.6

1000 75.7 83.1 84.7 80.6 81.2 80.2 78.7 79.2 76.7 79.4 78.6 76.5 70.7 163.8

1250 74.7 80.8 85.3 81.8 85.7 84.4 81.2 79.0 77.9 78.3 77.5 75.4 68.8 165.2

1600 72.0 77.6 82.5 79.9 85.1 85.6 82.9 80.4 75.6 75.7 74.4 71.8 64.2 165.2

2000 68.5 75.5 78.7 77.9 83.0 84.4 83.8 81.1 74.1 73.6 71.7 68.3 58.8 165.4

2500 64.7 71.5 75.3 75.6 79.5 81.0 81.1 78.6 71.2 70.6 68.3 62.7 51.3 164.8

3150 59.0 67.1 72.0 72.8 76.4 77.8 78.2 75.9 68.8 67.7 62.5 55.9 39.3 165.6

4000 47.1 57.7 63.1 64.6 68.7 70.5 69.8 67.8 60.8 59.0 42.1 18.5 164.0

5000 34.8 47.7 55.3 57.2 62.2 63.6 62.4 60.0 51.9 48.9 41.6 26.1 165.8

6300 14.7 31.4 41.1 44.3 49.8 51.5 49.7 46.6 37.8 32.5 21.6 167.9

8000 14.7 31.4 41.1 44.3 49.8 51.5 49.7 46.6 37.8 32.5 21.6 167.9

10000 170.6 170.6 170.6 170.6 170.6 170.6 170.6 170.6 170.6 170.6 170.6 170.6 170.6 170.6

12500 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4

16000 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4

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100000 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4

125000 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4

160000 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4

200000 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4

250000 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4

315000 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4

400000 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4 174.4

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1513 X1513C
BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 78.8 | 79.3 | 82.6 | 81.1 | 82.7 | 77.8 | 85.5 | 81.1 | 75.6 | 80.2 | 84.3 | 86.2 | 88.6 | 124.6 |
| 63 | 81.2 | 90.0 | 93.8 | 89.8 | 90.9 | 84.0 | 95.9 | 91.3 | 81.8 | 85.6 | 88.0 | 89.2 | 95.3 | 133.0 |
| 80 | 82.7 | 84.5 | 84.2 | 84.6 | 86.5 | 87.6 | 86.8 | 80.0 | 86.1 | 87.4 | 91.5 | 95.4 | 96.8 | 130.9 |
| 100 | 82.2 | 88.5 | 84.0 | 84.6 | 86.6 | 86.5 | 86.9 | 88.1 | 80.8 | 87.3 | 91.5 | 95.4 | 96.8 | 130.9 |
| 125 | 80.6 | 84.4 | 86.4 | 85.4 | 86.8 | 87.2 | 88.5 | 87.9 | 82.2 | 89.0 | 94.6 | 98.8 | 100.0 | 133.1 |
| 160 | 79.0 | 79.3 | 84.8 | 84.1 | 83.9 | 83.8 | 90.2 | 85.1 | 80.8 | 88.4 | 94.8 | 98.9 | 101.9 | 133.4 |
| 200 | 78.8 | 83.6 | 84.4 | 87.2 | 84.8 | 85.9 | 89.8 | 88.9 | 83.9 | 91.2 | 96.6 | 101.0 | 103.9 | 135.4 |
| 250 | 78.8 | 85.6 | 84.1 | 86.6 | 85.0 | 87.3 | 89.2 | 89.9 | 85.1 | 94.9 | 101.0 | 105.5 | 106.4 | 138.7 |
| 315 | 79.8 | 85.1 | 85.6 | 89.9 | 87.5 | 87.6 | 91.0 | 90.6 | 86.6 | 95.9 | 100.8 | 105.5 | 106.9 | 139.0 |
| 400 | 80.1 | 84.4 | 85.2 | 90.0 | 86.8 | 86.9 | 94.8 | 91.5 | 87.4 | 98.2 | 101.6 | 105.6 | 106.7 | 139.4 |
| 500 | 81.2 | 84.5 | 85.5 | 90.5 | 86.9 | 88.2 | 90.4 | 91.3 | 87.3 | 98.3 | 101.5 | 104.9 | 105.3 | 138.7 |
| 630 | 82.3 | 85.5 | 87.6 | 92.1 | 87.7 | 89.1 | 90.9 | 92.4 | 87.8 | 99.4 | 101.8 | 103.7 | 103.4 | 138.3 |
| 800 | 84.6 | 86.9 | 88.7 | 93.0 | 89.1 | 90.2 | 91.6 | 94.0 | 89.7 | 100.3 | 102.4 | 102.1 | 101.5 | 138.2 |
| 1000 | 87.0 | 88.8 | 89.8 | 93.9 | 90.0 | 91.1 | 92.7 | 94.6 | 89.8 | 100.2 | 101.3 | 102.0 | 99.9 | 138.0 |
| 1250 | 85.5 | 90.8 | 90.3 | 94.1 | 90.7 | 92.3 | 93.4 | 94.9 | 90.1 | 100.4 | 101.8 | 101.4 | 100.5 | 138.2 |
| 1600 | 87.6 | 90.5 | 91.2 | 94.5 | 91.8 | 92.7 | 94.8 | 95.1 | 91.7 | 99.8 | 100.6 | 101.1 | 100.3 | 138.1 |
| 2000 | 88.0 | 90.9 | 91.9 | 95.2 | 91.8 | 92.4 | 94.4 | 95.7 | 92.1 | 100.4 | 100.7 | 99.7 | 99.7 | 138.2 |
| 2500 | 88.8 | 92.1 | 92.4 | 95.2 | 92.8 | 93.9 | 94.8 | 96.7 | 92.3 | 102.1 | 100.8 | 100.4 | 98.9 | 138.9 |
| 3150 | 90.4 | 93.9 | 93.7 | 96.7 | 93.1 | 94.9 | 96.5 | 97.5 | 93.8 | 101.9 | 102.1 | 101.6 | 100.8 | 139.9 |
| 4000 | 91.7 | 94.1 | 94.8 | 97.0 | 93.9 | 94.3 | 96.2 | 98.3 | 93.8 | 102.3 | 102.7 | 102.7 | 140.7 | |
| 5000 | 97.0 | 99.3 | 98.6 | 98.2 | 94.8 | 95.8 | 96.9 | 98.3 | 95.0 | 103.6 | 104.7 | 106.2 | 104.7 | 142.8 |
| 6300 | 100.1 | 103.4 | 102.5 | 99.0 | 97.7 | 96.4 | 97.2 | 99.1 | 95.9 | 102.7 | 104.5 | 106.8 | 106.8 | 144.3 |
| 8000 | 100.3 | 105.6 | 105.9 | 100.8 | 101.3 | 99.9 | 98.3 | 98.9 | 97.6 | 102.2 | 103.5 | 105.7 | 106.1 | 145.6 |
| 10000 | 99.7 | 102.9 | 102.0 | 105.7 | 103.7 | 101.0 | 100.4 | 97.9 | 99.8 | 101.9 | 102.9 | 104.6 | 104.9 | |
| 12500 | 98.2 | 100.8 | 104.1 | 100.6 | 105.2 | 105.7 | 103.2 | 100.4 | 97.9 | 99.8 | 100.8 | 103.4 | 102.7 | 147.0 |
| 16000 | 95.4 | 99.3 | 101.0 | 98.3 | 102.7 | 103.7 | 103.5 | 101.6 | 96.1 | 98.7 | 99.1 | 100.7 | 99.8 | 146.8 |
| 20000 | 93.9 | 96.8 | 98.7 | 97.2 | 100.3 | 101.1 | 101.4 | 100.0 | 94.6 | 95.9 | 97.5 | 98.8 | 97.7 | 146.4 |
| 25000 | 91.6 | 94.5 | 97.0 | 95.7 | 98.6 | 99.9 | 99.6 | 98.6 | 93.0 | 95.4 | 95.1 | 96.1 | 93.9 | 147.1 |
| 31500 | 85.4 | 90.1 | 91.9 | 90.3 | 94.1 | 95.2 | 95.0 | 93.8 | 88.9 | 91.4 | 91.3 | 92.1 | 88.1 | 145.6 |
| 40000 | 82.9 | 87.9 | 90.1 | 88.1 | 91.8 | 92.7 | 92.0 | 91.4 | 86.7 | 88.9 | 89.4 | 89.2 | 84.6 | 147.1 |
| 50000 | 80.6 | 85.4 | 88.2 | 86.2 | 89.7 | 90.5 | 88.9 | 88.5 | 84.4 | 87.0 | 87.6 | 85.3 | 78.5 | 152.3 |
| 63000 | 77.7 | 83.9 | 85.7 | 83.9 | 86.9 | 88.1 | 86.8 | 86.5 | 82.4 | 85.2 | 85.4 | 85.3 | 78.5 | 152.3 |
| 80000 | 71.4 | 80.5 | 83.8 | 81.1 | 82.9 | 84.8 | 82.4 | 82.1 | 79.5 | 81.2 | 81.9 | 80.8 | 73.6 | 155.5 |
| DBA | 105.7 | 109.5 | 108.3 | 107.6 | 107.0 | 107.4 | 108.4 | 105.1 | 113.0 | 114.0 | 115.3 | 114.8 | | |
| PNL | 118.8 | 122.3 | 121.3 | 120.3 | 119.7 | 120.9 | 121.6 | 118.0 | 126.3 | 127.7 | 129.3 | 129.1 | | |
| PMLT | 118.8 | 122.3 | 122.3 | 122.3 | 121.3 | 120.3 | 121.6 | 118.0 | 126.3 | 127.7 | 129.3 | 129.1 | | |
| DBA | 105.7 | 109.5 | 108.3 | 107.6 | 107.0 | 107.4 | 108.4 | 105.1 | 113.0 | 114.0 | 115.3 | 114.8 | | |

NASA SHOCK CELL/20 EL ANN CV SUPP NO2 SC-5/NAS3-22514

VEHICL = ADH169 TEST DATE = 6-30-82 LOCAL = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.30 RELHUM = 77.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR

ORIGINAL PAGE 10
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1513 X1513F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 78.8 79.3 82.6 81.1 82.7 77.8 85.5 81.1 75.6 80.2 84.3 86.2 88.6 124.6

63 81.2 90.0 93.8 89.8 90.9 84.0 95.9 91.3 81.8 85.6 88.0 89.3 93.0

80 82.7 87.2 84.5 84.4 86.2 87.6 86.8 80.0 86.1 87.4 91.4 92.5 128.7

100 82.2 88.5 84.0 84.6 86.6 86.5 86.9 88.1 80.8 87.3 91.5 95.4 96.8 130.9

125 80.6 84.4 86.4 85.4 86.8 87.2 88.5 89.0 82.2 89.0 94.6 98.8 100.0 133.1

160 79.0 79.3 84.8 84.1 83.9 83.8 83.8 85.1 80.8 88.4 94.8 98.9 101.9 133.4

200 78.8 83.6 84.4 87.2 84.8 85.9 88.8 88.9 83.9 91.2 96.6 101.0 103.9 135.4

250 78.8 85.6 84.1 86.6 85.0 87.3 89.2 89.9 85.1 94.9 101.0 105.5 106.4 138.7

315 79.8 85.1 85.6 89.9 87.5 87.6 91.0 90.6 86.6 95.9 100.8 105.5 106.9 139.0

400 80.1 84.4 85.2 90.0 86.8 86.9 94.8 91.5 87.4 98.2 101.6 105.6 106.7 139.4

500 81.2 84.5 85.5 90.5 86.9 88.2 90.4 91.3 87.3 98.3 101.5 104.9 105.3 138.7

600 82.3 85.5 87.6 92.1 89.1 90.2 91.6 92.4 87.8 99.4 102.4 103.4 103.8 138.3

800 84.6 86.9 88.7 93.0 89.1 90.2 91.6 92.4 87.8 99.4 102.4 103.4 103.8 138.3

1000 87.0 88.8 89.8 93.9 90.0 91.1 92.7 94.6 89.8 100.2 101.3 102.0 99.9 138.0

1250 85.5 90.8 90.3 94.1 90.7 92.3 93.4 94.9 90.1 100.4 101.8 101.4 100.5 138.2

1600 87.6 90.5 91.2 94.5 91.8 92.7 94.8 95.1 91.7 99.8 100.6 101.1 99.7 138.1

2000 88.0 90.9 91.9 95.2 91.8 92.4 94.4 95.7 92.1 100.4 100.7 100.7 99.7 138.2

2500 88.8 92.1 92.4 95.2 92.8 93.9 94.8 96.7 92.3 102.1 100.8 100.4 98.9 138.9

3150 90.4 93.9 93.7 96.7 93.1 94.9 96.5 97.5 93.8 101.9 102.1 101.6 100.8 139.9

4000 91.7 94.8 97.0 93.9 94.3 96.2 98.3 98.3 98.3 102.6 103.2 102.7 104.7 142.8

5000 97.0 99.3 98.6 94.8 95.8 96.9 98.3 98.3 98.3 103.6 104.7 106.2 104.7 142.8

6300 100.1 103.4 102.5 99.0 97.7 96.4 97.2 99.1 95.9 102.7 104.5 106.8 106.8 144.3

8000 100.3 103.6 105.9 100.8 101.3 99.8 98.3 98.9 97.6 102.2 103.5 105.7 106.1 145.6

10000 99.7 103.9 106.2 102.0 105.7 103.7 101.0 99.4 98.6 101.9 102.9 105.9 104.6 146.9

12500 98.2 100.8 104.1 100.6 105.2 105.7 103.2 100.4 97.9 99.8 100.8 103.4 102.7 147.0

16000 95.4 98.3 102.7 98.3 102.7 103.5 101.6 96.1 98.7 99.1 100.7 99.8 146.8

20000 93.9 96.8 98.7 97.2 100.3 101.1 101.4 100.0 94.6 95.9 97.5 98.8 146.4

25000 91.6 94.5 97.0 95.7 98.6 99.8 99.6 98.6 93.0 95.4 96.1 96.1 147.1

31500 85.4 90.1 91.9 90.3 94.1 95.2 95.0 93.8 88.9 91.4 91.3 92.1 145.6

40000 82.9 87.9 90.1 88.1 91.8 92.7 92.0 91.4 88.9 89.4 87.6 84.6 147.1

50000 80.6 85.4 88.2 86.2 89.7 90.5 89.9 88.5 84.4 87.0 87.4 82.1 149.4

63000 77.7 83.9 85.7 83.9 86.9 88.1 86.8 86.5 82.4 85.2 85.4 80.8 152.3

80000 71.4 80.5 83.8 81.1 82.9 84.8 82.4 82.1 79.5 81.2 81.9 80.8 155.5

QASPL 107.6 111.4 112.5 110.3 111.8 111.5 110.9 107.3 113.7 115.2 117.2 117.3 160.6

PNL 118.8 122.3 121.3 120.3 119.7 120.9 121.9 118.0 126.3 127.7 129.3 129.1

PFLT 118.8 122.3 121.3 120.3 119.7 121.6 121.9 118.0 126.3 127.7 129.3 129.1

DBA 193.2 201.5 204.5 202.0 204.1 205.8 203.7 203.4 200.4 202.3 202.9 202.1 195.1

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICLE = ADH169 TEST DATE = 6-30-82
IAPLHA = SB59
WIND DIR = DEG WIND VEL = MPH
LOCAT = C41 ANECH CH CONFIG = 5
MODEL = AX
PAMB HG = 29.30
RELHUM = 77.2 PCT
FLTVEL = 0. FPS

LBS XNL = RPM XNH = RPM V8 = 1704.0 FPS AE8 = 19.9 SO IN
LBS XNLR = RPM XNHR = RPM V18 = 1704.0 FPS AE18 = 0. SO IN

82F-ZER-1513 TAPE = X1513F TEST PT NO = 1513 NC = AE049 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

BACKGROUNDS X79F400B0400

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PMW

| | | | | | | | | | | | | | | |
|----|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50 | 79.0 | 80.8 | 86.8 | 79.1 | 83.0 | 80.1 | 85.2 | 79.9 | 75.3 | 79.2 | 83.8 | 87.7 | 87.4 | 125.1 |
| 53 | 83.5 | 92.0 | 96.3 | 85.1 | 91.1 | 87.8 | 96.9 | 87.3 | 81.5 | 95.3 | 82.7 | 93.4 | 91.4 | 139.5 |

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|----|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 80 | 82.4 | 87.2 | 83.7 | 84.3 | 84.4 | 85.7 | 87.4 | 86.0 | 80.2 | 85.8 | 87.2 | 90.9 | 92.0 | 128.4 |
|----|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|

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|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 100 | 82.0 | 87.7 | 84.3 | 84.3 | 86.4 | 86.3 | 86.9 | 88.6 | 80.8 | 87.6 | 91.2 | 95.4 | 96.6 | 130.8 |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|

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|-----|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 160 | 79.5 | 79.3 | 85.1 | 83.8 | 84.4 | 84.8 | 90.4 | 85.8 | 81.3 | 88.9 | 95.3 | 99.4 | 102.4 | 133.9 |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|

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|-----|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| 200 | 79.3 | 83.6 | 84.9 | 87.7 | 84.5 | 85.9 | 89.5 | 89.4 | 84.4 | 91.4 | 96.6 | 101.8 | 103.7 | 135.6 |
|-----|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|

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|-----|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|
| 400 | 80.4 | 84.7 | 85.7 | 90.2 | 86.8 | 87.9 | 94.8 | 91.7 | 87.4 | 97.7 | 101.9 | 106.3 | 107.2 | 139.8 |
|-----|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|

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|-----|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|
| 500 | 81.7 | 85.0 | 85.8 | 91.0 | 86.9 | 88.2 | 90.6 | 91.5 | 87.5 | 98.3 | 101.7 | 105.1 | 105.3 | 138.8 |
| 630 | 82.3 | 86.0 | 87.8 | 91.8 | 88.3 | 89.1 | 90.8 | 92.6 | 87.8 | 99.4 | 101.8 | 103.3 | 103.5 | 133.4 |

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|-----|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|
| 800 | 84.6 | 87.4 | 89.0 | 93.5 | 89.3 | 90.7 | 91.8 | 94.2 | 90.0 | 100.0 | 102.4 | 102.3 | 101.5 | 138.3 |
|-----|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|

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|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|
| 1000 | 87.3 | 88.8 | 90.3 | 93.9 | 90.5 | 91.3 | 93.2 | 94.6 | 90.1 | 100.2 | 102.0 | 102.2 | 100.6 | 138.3 |
|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|

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|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|
| 1600 | 87.9 | 90.8 | 91.4 | 94.7 | 92.6 | 93.2 | 95.0 | 95.8 | 91.4 | 99.3 | 101.9 | 101.8 | 100.6 | 138.5 |
|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|

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|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|
| 2000 | 88.5 | 91.7 | 92.4 | 95.7 | 91.8 | 92.7 | 94.7 | 96.2 | 91.9 | 100.4 | 100.9 | 101.0 | 100.2 | 138.5 |
|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|

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|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| 2300 | 89.0 | 92.3 | 92.8 | 93.9 | 93.9 | 93.9 | 92.8 | 93.8 | 94.1 | 96.5 | 98.0 | 93.8 | 102.1 | 101.8 | 100.8 | 140.1 |
| 3150 | 91.4 | 94.2 | 94.0 | 97.2 | 93.8 | 94.1 | 96.5 | 98.0 | 93.8 | 102.1 | 101.8 | 100.8 | 140.1 | 101.8 | 100.8 | 140.1 |

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|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|
| 4000 | 92.2 | 94.6 | 95.3 | 97.5 | 93.6 | 94.8 | 96.0 | 98.8 | 94.2 | 102.3 | 102.8 | 103.4 | 103.2 | 140.9 |
|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|

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|------|-------|-------|-------|------|------|------|------|------|------|-------|-------|-------|-------|-------|
| 9000 | 97.8 | 100.0 | 98.9 | 98.7 | 94.8 | 95.8 | 97.2 | 99.3 | 95.0 | 103.8 | 104.9 | 106.2 | 105.2 | 143.1 |
| 6300 | 100.9 | 103.9 | 102.8 | 99.3 | 98.1 | 95.1 | 97.7 | 99.1 | 95.1 | 103.5 | 105.0 | 107.3 | 105.9 | 144.7 |

8000 101.5 106.1 106.7 101.3 102.1 99.9 98.3 99.9 97.9 102.9 104.7 105.7 105.6 146.1

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|------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|-------|
| 0000 | 100.2 | 104.7 | 106.7 | 102.5 | 106.2 | 104.2 | 101.0 | 99.9 | 99.3 | 102.1 | 103.1 | 105.1 | 105.1 | 147.3 |
|------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|-------|

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|------|------|------|-------|------|-------|-------|-------|-------|------|------|------|-------|-------|-------|
| 6000 | 95.9 | 99.3 | 101.2 | 98.1 | 103.2 | 103.7 | 104.2 | 102.3 | 96.4 | 98.2 | 99.6 | 101.0 | 100.8 | 147.1 |
|------|------|------|-------|------|-------|-------|-------|-------|------|------|------|-------|-------|-------|

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|------|------|------|------|------|-------|-------|-------|-------|------|------|------|------|------|-------|
| 0000 | 94.2 | 96.3 | 99.2 | 97.5 | 100.8 | 101.1 | 101.9 | 100.7 | 94.8 | 96.4 | 97.7 | 98.3 | 98.4 | 146.7 |
|------|------|------|------|------|-------|-------|-------|-------|------|------|------|------|------|-------|

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|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 1500 | 85.7 | 90.3 | 92.1 | 94.1 | 95.5 | 94.7 | 94.0 | 88.9 | 92.4 | 92.6 | 92.1 | 88.6 | 145.9 |
| 3000 | 91.1 | 94.6 | 97.3 | 99.1 | 99.7 | 99.8 | 99.1 | 93.9 | 98.2 | 98.1 | 98.1 | 94.9 | 147.4 |

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|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 0000 | 83.1 | 88.1 | 90.4 | 88.6 | 92.3 | 93.2 | 93.0 | 91.9 | 86.7 | 90.4 | 90.9 | 89.2 | 85.9 | 147.8 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|

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|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 0000 | 80.4 | 86.1 | 88.7 | 86.7 | 90.0 | 91.2 | 90.2 | 89.0 | 84.4 | 87.7 | 88.4 | 87.4 | 84.5 | 78.3 | 153.8 |
| 3000 | 77.9 | 83.7 | 86.9 | 84.1 | 87.4 | 88.6 | 86.8 | 87.0 | 83.4 | 85.5 | 87.7 | 84.6 | 78.3 | 153.8 | |

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|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 0000 | 73.2 | 80.7 | 83.8 | 81.6 | 84.2 | 85.3 | 82.9 | 83.1 | 79.0 | 81.7 | 83.9 | 82.1 | 73.9 | 156.2 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|

ASPI 108 2 111 8 112 6 113 5 114 4 115 3 116 2 117 1 118 0 119 0 120 0 121 0 122 0 123 0 124 0 125 0 126 0 127 0 128 0 129 0 130 0 131 0 132 0 133 0 134 0 135 0 136 0 137 0 138 0 139 0 140 0 141 0 142 0 143 0 144 0 145 0 146 0 147 0 148 0 149 0 150 0 151 0 152 0 153 0 154 0 155 0 156 0 157 0 158 0 159 0 160 0 161 0 162 0 163 0 164 0 165 0 166 0 167 0 168 0 169 0 170 0 171 0 172 0 173 0 174 0 175 0 176 0 177 0 178 0 179 0 180 0 181 0 182 0 183 0 184 0 185 0 186 0 187 0 188 0 189 0 190 0 191 0 192 0 193 0 194 0 195 0 196 0 197 0 198 0 199 0 200 0

PNL 119.5 122.8 122.9 121.7 120.7 120.0 121.0 122.4 118.3 126.5 128.0 129.6 129.3

PNLT 119.5 122.8 122.9 121.7 120.7 120.0 121.7 122.4 118.3 126.5 128.0 129.6 129.3

DBX 108.9 110.0 110.3 108.6 108.1 107.2 107.9 108.9 109.9 113.2 114.4 119.9 119.1

SA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

TEST DATE = 6-30-82 LOCAL = C41 ANECH CH CONEIG

PLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 71.0

ND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC

| | | | | | | | | | | | | |
|---|---|-----|-----|---|-----|-----|---|-----|----|---|--------|----|
| 1 | = | LBS | XNL | = | RPM | XNH | = | RPM | V8 | = | 1713.3 | FP |
|---|---|-----|-----|---|-----|-----|---|-----|----|---|--------|----|

= LBS XNLR = RPM XNHR = RPM V18 = FP

22F-ZER-1515 TAPE = X1515C TEST PT NO = 1515 NC = AE049

[illegible]

ORIGINAL PAGE 13
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1515 X1515F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 79.0 80.8 86.8 79.1 83.0 80.1 85.2 79.9 75.3 79.2 83.8 87.7 87.4 125.1
63 83.5 87.0 85.1 91.1 87.8 96.9 87.3 81.5 85.8 87.7 93.4 91.1 133.6
80 82.4 87.2 83.7 84.3 85.7 87.4 86.0 80.2 85.8 87.2 90.9 92.0 123.4
100 82.0 87.7 84.3 86.4 86.3 86.9 86.6 80.8 87.6 91.2 95.4 96.6 130.8
125 80.9 85.1 86.9 87.8 87.7 89.0 88.4 82.4 90.0 95.1 99.3 101.0 133.8
160 79.5 79.3 85.1 83.8 84.4 84.8 90.4 85.8 81.3 88.9 95.3 99.4 133.9
200 79.3 83.6 84.9 87.7 84.5 85.9 89.5 89.4 84.4 91.4 96.6 101.8 135.6
250 79.3 86.6 84.3 86.6 85.0 87.6 89.5 90.4 85.6 95.4 101.0 105.5 139.0
315 80.5 85.3 85.8 90.4 87.7 86.3 91.2 91.4 87.1 96.4 101.0 106.0 139.3
400 80.4 84.7 85.7 90.2 86.8 87.9 94.8 91.7 87.4 97.7 101.9 106.3 139.8
500 81.7 85.0 85.8 91.0 86.9 88.2 90.6 91.5 87.5 98.3 101.7 105.1 138.8
630 82.3 86.0 87.8 91.9 88.2 89.1 90.9 92.6 94.2 90.0 102.4 103.6 138.4
800 84.6 87.4 89.0 93.5 89.3 90.7 91.8 94.2 90.0 100.0 102.4 103.6 138.3
1000 87.3 88.8 90.3 93.9 90.5 91.3 93.2 94.6 90.1 100.2 102.0 102.2 138.3
1250 85.3 91.0 90.8 94.1 91.7 92.6 93.9 95.1 90.1 100.4 101.8 101.7 138.4
1600 87.9 90.8 91.4 94.7 92.6 93.2 95.0 95.8 91.4 99.3 101.9 101.6 138.5
2000 88.5 91.7 92.4 95.7 91.8 92.7 94.7 96.2 91.9 100.4 100.9 100.2 138.5
2500 89.6 92.3 92.6 96.2 92.8 93.9 95.3 96.9 92.5 101.8 100.8 100.9 139.1
3150 92.2 94.0 97.2 93.8 94.1 96.5 98.0 98.6 94.2 102.1 101.8 100.8 140.1
4000 92.2 94.6 95.3 97.5 93.6 94.8 96.0 98.8 94.2 102.3 102.8 103.2 140.9
5000 97.8 100.0 98.9 98.7 94.8 95.8 97.2 99.3 95.0 103.8 104.9 106.2 143.1
6300 100.9 103.9 102.8 99.3 98.4 96.4 97.7 99.4 96.4 103.5 105.0 107.3 144.7
8000 101.5 106.1 106.7 101.3 102.1 99.9 98.3 99.9 97.9 102.9 104.7 105.6 146.1
10000 100.2 104.7 106.7 102.5 104.2 101.0 99.9 99.3 102.1 103.1 105.1 105.1 147.3
12500 98.4 100.5 104.1 100.6 105.7 106.2 103.5 101.1 97.9 99.6 101.3 103.2 147.3
16000 95.9 99.3 101.2 98.1 103.7 104.2 102.3 96.4 98.2 99.6 101.0 100.8 147.1
20000 94.2 96.3 99.2 97.5 100.8 101.1 101.9 100.7 94.8 96.4 97.7 98.3 146.7
25000 91.1 94.8 97.3 95.9 99.1 99.7 99.8 99.1 93.5 96.2 96.1 96.1 147.4
31500 85.7 90.3 92.1 91.3 94.1 95.5 94.7 94.0 88.9 92.4 92.6 92.1 145.9
40000 83.1 88.1 90.4 88.6 92.3 93.0 91.9 86.7 90.4 89.2 85.9 84.7 147.8
50000 80.4 86.1 88.7 86.7 90.0 91.2 89.0 84.4 87.7 88.4 87.4 83.3 149.8
63000 77.9 83.7 86.9 84.1 87.4 88.6 86.8 87.0 82.4 85.5 87.7 84.6 152.8
80000 73.2 80.7 83.8 81.6 84.2 85.3 82.9 83.1 79.0 81.7 83.9 82.1 156.2

QASPL 108.2 111.8 113.0 110.6 112.3 112.1 111.8 111.4 107.5 113.9 115.6 117.4 117.6 161.0
PNL 119.5 122.8 122.9 121.7 120.7 120.0 121.0 122.4 118.3 126.5 128.0 129.6 129.3
PNLT 119.5 122.8 122.9 121.7 120.0 121.0 121.7 122.4 118.3 126.5 128.0 129.6 129.3
DBA 194.5 201.7 204.7 202.5 205.2 206.3 204.1 204.2 200.0 202.8 204.9 202.9 195.5

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICL = ADH170 TEST DATE = 6-30-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.30 RELHUM = 77.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FMNINI = LBS XNL RPM XNHR = RPM V8 = 1713.3 FPS AE8 = 19.9 SQ IN
FMRAMB = LBS XNLR = RPM V18 = 1713.3 FPS AE18 = 0. SQ IN

RUNPT = 82F-ZER-1515 TAPE = X1515F TEST PT NO = 1515 NC = AE049 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1515 X15151

ANGLES MEASURED FROM INLET, DEGREES

| | | | | | | | | | | | | | | | |
|---|---|----------------------|-------------------|------------|------------------|-------------------|-----------------|-----------------|-------------------|--------------|------------------------|----------------|-----------------|-----------|--------|
| ORIGINAL PAGE IS
OF POOR QUALITY | | | | | | | | | | | | | | | |
| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. | | |
| 50 | 59.4 | 65.2 | 67.3 | 72.6 | 70.8 | 77.6 | 74.1 | 69.1 | 78.3 | 80.9 | 83.2 | 80.7 | 158.3 | | |
| 63 | 60.7 | 65.5 | 67.4 | 73.4 | 69.6 | 71.1 | 73.4 | 73.9 | 69.1 | 78.9 | 80.7 | 81.9 | 157.3 | | |
| 80 | 61.2 | 66.5 | 69.4 | 74.2 | 70.9 | 71.9 | 73.7 | 74.9 | 69.4 | 79.9 | 80.7 | 76.9 | 155.9 | | |
| 100 | 63.5 | 67.9 | 70.5 | 75.7 | 72.0 | 73.5 | 74.5 | 76.5 | 71.5 | 80.5 | 81.3 | 79.0 | 156.7 | | |
| 125 | 66.0 | 69.2 | 71.8 | 76.0 | 73.1 | 74.1 | 75.8 | 76.8 | 71.5 | 80.5 | 80.8 | 78.7 | 156.8 | | |
| 160 | 63.8 | 71.2 | 72.1 | 76.1 | 74.2 | 75.2 | 76.4 | 77.1 | 71.4 | 80.6 | 80.3 | 77.9 | 156.9 | | |
| 200 | 66.2 | 70.7 | 72.6 | 76.6 | 74.9 | 75.6 | 77.3 | 77.7 | 72.6 | 79.2 | 80.2 | 77.7 | 157.0 | | |
| 250 | 66.5 | 71.4 | 73.2 | 77.4 | 73.9 | 75.0 | 76.8 | 77.9 | 72.7 | 80.1 | 78.9 | 76.5 | 157.0 | | |
| 315 | 67.1 | 71.7 | 73.2 | 77.6 | 74.6 | 75.9 | 77.2 | 78.3 | 73.1 | 81.2 | 78.4 | 75.8 | 157.6 | | |
| 400 | 68.5 | 73.1 | 74.2 | 78.3 | 75.4 | 75.8 | 78.1 | 79.1 | 74.0 | 81.1 | 79.2 | 76.1 | 158.6 | | |
| 500 | 68.8 | 73.2 | 75.2 | 78.3 | 74.9 | 76.3 | 77.2 | 79.6 | 74.1 | 80.9 | 79.5 | 77.0 | 159.4 | | |
| 600 | 73.9 | 78.2 | 78.5 | 79.1 | 75.8 | 77.0 | 78.2 | 79.7 | 74.6 | 82.0 | 81.0 | 79.2 | 161.6 | | |
| 800 | 76.5 | 81.7 | 82.0 | 79.5 | 79.2 | 77.3 | 78.4 | 79.6 | 75.6 | 81.3 | 80.6 | 79.6 | 163.2 | | |
| 1000 | 76.7 | 83.6 | 85.7 | 81.4 | 82.7 | 80.7 | 78.9 | 76.9 | 76.9 | 80.4 | 79.9 | 77.3 | 164.6 | | |
| 1250 | 74.9 | 81.8 | 85.5 | 82.3 | 86.7 | 84.9 | 81.4 | 79.8 | 78.1 | 79.3 | 77.8 | 75.9 | 165.8 | | |
| 1600 | 72.2 | 77.1 | 82.5 | 80.2 | 85.8 | 86.6 | 83.6 | 80.7 | 76.3 | 76.2 | 75.1 | 72.6 | 165.8 | | |
| 2000 | 68.7 | 75.3 | 79.2 | 77.4 | 83.2 | 83.9 | 84.3 | 81.6 | 74.4 | 74.1 | 72.5 | 68.8 | 165.6 | | |
| 2500 | 65.2 | 71.0 | 76.3 | 76.1 | 80.3 | 80.8 | 81.4 | 79.4 | 71.9 | 71.1 | 68.8 | 63.2 | 165.2 | | |
| 3150 | 58.7 | 67.1 | 72.5 | 73.0 | 77.2 | 78.1 | 77.9 | 76.2 | 68.8 | 68.5 | 63.7 | 56.1 | 165.9 | | |
| 4000 | 47.1 | 57.9 | 63.6 | 65.1 | 69.2 | 71.0 | 69.8 | 67.8 | 60.3 | 60.0 | 54.0 | 43.1 | 164.3 | | |
| 5000 | 34.8 | 48.1 | 55.6 | 57.0 | 62.4 | 63.8 | 63.1 | 60.3 | 51.9 | 50.4 | 42.6 | 26.6 | 166.3 | | |
| 6300 | 14.2 | 31.9 | 41.9 | 44.3 | 50.0 | 52.0 | 50.2 | 46.6 | 37.5 | 33.5 | 22.3 | 0.6 | 171.3 | | |
| 8000 | 4.7 | 18.7 | 22.5 | 29.3 | 31.6 | 28.7 | 25.4 | 14.2 | 6.5 | | | | 174.7 | | |
| 10000 | | | | | | | | | | | | | | | |
| 12500 | | | | | | | | | | | | | | | |
| 15000 | | | | | | | | | | | | | | | |
| 20000 | | | | | | | | | | | | | | | |
| 25000 | | | | | | | | | | | | | | | |
| 31500 | | | | | | | | | | | | | | | |
| 40000 | | | | | | | | | | | | | | | |
| 50000 | | | | | | | | | | | | | | | |
| 63000 | | | | | | | | | | | | | | | |
| 80000 | | | | | | | | | | | | | | | |
| DBA | 82.6 | 88.6 | 91.5 | 89.2 | 92.7 | 92.5 | 91.3 | 89.9 | 85.1 | 88.4 | 87.3 | 85.1 | 78.8 | | |
| PNLT | 90.5 | 97.1 | 100.7 | 100.2 | 102.7 | 103.8 | 103.1 | 101.7 | 95.5 | 99.0 | 97.3 | 96.0 | 88.6 | | |
| PNL | 90.5 | 96.5 | 100.2 | 99.6 | 102.7 | 103.3 | 103.1 | 101.7 | 95.5 | 98.5 | 97.3 | 95.0 | 88.6 | | |
| GASPL | 83.3 | 89.1 | 91.7 | 90.7 | 92.5 | 92.4 | 91.9 | 91.3 | 86.5 | 92.4 | 92.1 | 90.9 | 86.6 | | |
| MODEL AREA = 128.3 SQ CM (19.9 SQ IN) | SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) | | | | | | | | | | | | | | |
| NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514 | | | | | | | | | | | | | | | |
| VEHICL = ADH170 | TEST DATE = 6-30-82 | LOCAL = C41 ANECH CH | CONFIG = 5 | MODEL = AX | PAMB HG = 29.30 | RELHUM = 77.2 PCT | FLTVEL = 0. FPS | WIND DIR = SB59 | DEG WIND VEL = NO | LEGA = | PWL AREA = FULL SPHERE | TAMB F = 71.00 | EXT CONFIG = SL | MIKE HT = | NBFR = |
| FMINI = | LBS XNL | RPM | XNH | RPM | XNHR | RPM | V8 | = 1713.3 FPS | AEB | = 19.9 SQ IN | AE8 | = 0. SQ IN | AE18 | = | |
| FMRAMB = | LBS XNLR | RPM | XNHR | RPM | V8 | = 1713.3 FPS | AEB | = 19.9 SQ IN | AE8 | = 0. SQ IN | AE18 | = | | | |
| PUNPT = | -ZER-1515 | TAPE = X15151 | TEST PT NO = 1515 | NC = AE049 | CORR FAN SPEED = | RPM | | | | | | | | | |

ORIGINAL PAGE IS
OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1519 X1519C

BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 79.5 | 81.8 | 84.6 | 80.6 | 82.0 | 79.3 | 85.7 | 83.6 | 73.3 | 78.4 | 83.5 | 87.5 | 88.4 | 125.1 | |
| 63 | 84.5 | 90.5 | 93.3 | 87.8 | 89.9 | 86.8 | 96.6 | 92.8 | 81.0 | 86.6 | 85.0 | 92.2 | 94.3 | 133.3 |
| 80 | 82.4 | 87.7 | 84.0 | 84.0 | 84.4 | 85.7 | 87.6 | 87.0 | 79.7 | 85.8 | 87.7 | 90.9 | 92.3 | 128.6 |
| 100 | 83.0 | 88.7 | 84.5 | 85.1 | 86.9 | 86.5 | 87.4 | 88.8 | 81.5 | 88.3 | 91.7 | 95.7 | 97.6 | 131.4 |
| 125 | 81.6 | 85.1 | 87.2 | 85.7 | 87.8 | 87.7 | 89.3 | 88.9 | 82.9 | 88.6 | 95.3 | 99.4 | 102.4 | 133.9 |
| 160 | 80.0 | 79.0 | 85.1 | 84.6 | 84.7 | 84.8 | 90.7 | 85.8 | 81.1 | 88.6 | 95.3 | 99.4 | 102.4 | 133.9 |
| 200 | 79.3 | 83.4 | 84.9 | 86.7 | 85.3 | 86.4 | 90.0 | 89.9 | 84.9 | 91.9 | 97.1 | 102.3 | 104.4 | 136.2 |
| 250 | 79.5 | 86.8 | 89.1 | 85.2 | 87.6 | 89.7 | 90.6 | 85.8 | 95.1 | 101.3 | 105.5 | 107.1 | 109.0 | 139.0 |
| 315 | 80.9 | 85.4 | 85.9 | 90.5 | 87.1 | 87.9 | 95.3 | 92.0 | 87.7 | 98.5 | 102.4 | 106.3 | 107.7 | 140.2 |
| 400 | 80.9 | 85.4 | 85.9 | 90.5 | 87.1 | 87.9 | 95.3 | 92.0 | 87.7 | 98.5 | 102.4 | 106.3 | 107.7 | 140.2 |
| 500 | 81.9 | 86.8 | 87.6 | 92.1 | 88.4 | 89.3 | 91.2 | 93.1 | 88.1 | 99.4 | 102.3 | 104.1 | 104.1 | 138.8 |
| 630 | 82.5 | 86.5 | 87.6 | 92.1 | 88.4 | 89.3 | 91.2 | 93.1 | 88.1 | 99.4 | 102.3 | 104.1 | 104.1 | 138.8 |
| 800 | 84.9 | 87.7 | 89.2 | 93.2 | 89.1 | 90.7 | 92.1 | 94.5 | 90.0 | 100.3 | 102.7 | 102.6 | 102.0 | 138.5 |
| 1000 | 87.8 | 89.3 | 90.6 | 93.4 | 90.2 | 91.1 | 93.2 | 94.6 | 90.6 | 100.4 | 102.3 | 102.7 | 100.9 | 138.5 |
| 1250 | 86.3 | 91.0 | 90.6 | 94.1 | 91.4 | 92.8 | 94.2 | 95.1 | 90.8 | 100.4 | 101.8 | 101.9 | 101.3 | 138.5 |
| 1600 | 88.4 | 91.8 | 91.9 | 95.0 | 92.8 | 93.4 | 95.3 | 95.8 | 91.2 | 99.8 | 101.1 | 101.3 | 100.3 | 138.5 |
| 2000 | 89.0 | 91.9 | 92.1 | 95.2 | 92.1 | 92.9 | 94.9 | 96.5 | 91.9 | 100.6 | 100.9 | 100.7 | 99.7 | 138.5 |
| 2500 | 89.8 | 92.8 | 92.9 | 95.9 | 93.0 | 94.1 | 95.3 | 96.9 | 93.3 | 101.8 | 100.8 | 100.4 | 99.2 | 139.0 |
| 3150 | 91.6 | 94.7 | 94.2 | 97.0 | 93.6 | 94.6 | 96.8 | 98.0 | 93.6 | 101.9 | 102.4 | 101.1 | 100.1 | 140.1 |
| 4000 | 92.7 | 95.6 | 95.5 | 97.5 | 93.9 | 95.3 | 96.7 | 98.5 | 93.9 | 102.1 | 102.8 | 103.2 | 102.9 | 140.9 |
| 5000 | 97.8 | 100.5 | 99.1 | 98.7 | 95.1 | 95.8 | 97.2 | 99.0 | 95.0 | 104.3 | 104.9 | 105.0 | 105.5 | 143.2 |
| 6300 | 101.1 | 104.4 | 103.5 | 100.0 | 98.9 | 98.2 | 99.4 | 99.4 | 96.4 | 102.7 | 105.5 | 106.8 | 107.1 | 144.9 |
| 8000 | 101.0 | 106.9 | 106.9 | 101.6 | 102.8 | 100.6 | 99.1 | 99.7 | 98.1 | 102.7 | 104.2 | 106.0 | 106.1 | 146.3 |
| 10000 | 99.7 | 104.2 | 106.5 | 102.2 | 106.7 | 105.2 | 102.0 | 100.2 | 99.6 | 102.1 | 103.4 | 105.4 | 104.9 | 147.5 |
| 12500 | 98.7 | 100.8 | 104.4 | 105.4 | 105.9 | 104.0 | 101.1 | 97.2 | 100.1 | 101.3 | 103.2 | 102.9 | 102.9 | 147.3 |
| 16000 | 96.2 | 99.8 | 101.2 | 98.3 | 103.2 | 103.9 | 103.7 | 102.3 | 95.9 | 97.9 | 99.1 | 100.7 | 100.0 | 147.0 |
| 20000 | 94.4 | 96.8 | 99.2 | 97.5 | 100.8 | 101.8 | 101.6 | 100.7 | 94.6 | 95.9 | 97.2 | 99.0 | 97.7 | 146.8 |
| 25000 | 91.6 | 94.8 | 97.3 | 95.7 | 99.3 | 99.9 | 99.8 | 98.6 | 93.3 | 95.7 | 95.8 | 96.9 | 93.9 | 147.4 |
| 31500 | 85.9 | 90.1 | 92.4 | 90.8 | 94.1 | 95.7 | 95.0 | 93.8 | 89.1 | 91.6 | 91.8 | 91.8 | 91.8 | 145.8 |
| 40000 | 83.6 | 88.1 | 90.1 | 88.1 | 92.8 | 93.2 | 93.0 | 91.6 | 86.4 | 89.2 | 90.4 | 89.7 | 85.4 | 147.7 |
| 50000 | 81.6 | 85.9 | 86.7 | 86.5 | 90.2 | 91.0 | 89.9 | 89.0 | 84.6 | 87.2 | 88.4 | 88.1 | 82.3 | 149.8 |
| 63000 | 78.4 | 83.2 | 86.2 | 84.1 | 87.7 | 88.6 | 87.0 | 82.6 | 79.5 | 81.9 | 83.4 | 86.7 | 85.3 | 152.6 |
| 80000 | 72.4 | 80.7 | 83.8 | 81.9 | 83.9 | 85.3 | 82.7 | 82.6 | 79.5 | 81.9 | 83.4 | 86.7 | 85.3 | 156.1 |
| DBA | 106.4 | 110.2 | 110.6 | 108.8 | 108.5 | 107.8 | 108.0 | 108.9 | 105.4 | 113.2 | 114.5 | 115.5 | 115.3 | |
| PNL | 119.7 | 123.2 | 123.1 | 121.8 | 121.0 | 120.6 | 122.1 | 122.4 | 118.3 | 126.7 | 128.1 | 129.4 | 129.5 | |
| DASP | 108.2 | 111.9 | 113.0 | 110.6 | 112.5 | 112.4 | 112.0 | 111.4 | 107.4 | 113.9 | 115.6 | 117.4 | 117.8 | 161.0 |

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICLE = ADH171 TEST DATE = 6-30-82
 IAPLHA = SB59 IEGA = NO
 WIND DIR = SB59 DEG WIND VELOCITY = MPH
 PNL AREA = FULL SPHERE
 EXT DIST = 40.0 FT
 TAMB F = 71.00
 MIKE HT = 29.30
 RELHUM = 77.2 PCT
 FLTVL = 0. FPS
 NBFR =

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OF POOR QUALITY

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1519 X1519F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 79.5 81.8 84.6 80.6 82.0 79.3 85.7 83.6 73.3 78.4 83.5 87.5 88.4 125.1

63 84.5 90.5 93.3 87.8 89.9 86.8 96.6 81.0 86.6 85.0 92.2 90.9 92.3 133.3

80 82.4 87.7 84.0 84.4 85.7 87.6 87.6 79.7 85.8 87.7 90.9 92.3 128.6

100 83.0 88.7 84.5 85.1 86.9 86.5 87.4 88.8 81.5 88.3 91.7 95.7 97.6 131.4

125 81.6 85.1 87.2 85.7 87.7 89.3 88.9 82.9 89.7 95.4 99.5 100.7 133.8

150 80.0 79.0 84.6 84.7 84.8 90.7 85.8 81.1 88.6 95.3 99.4 102.4 133.9

200 79.3 83.4 84.9 88.7 85.3 86.4 90.0 89.9 84.9 91.9 97.1 102.3 104.4 136.2

250 79.5 86.8 84.6 89.1 85.2 87.6 89.7 90.6 85.8 95.1 101.3 105.5 107.1 139.0

315 80.5 85.1 85.6 90.4 88.2 88.3 91.2 91.1 87.3 96.4 101.0 105.7 107.9 139.5

400 80.9 85.4 85.9 90.5 87.1 87.9 95.3 92.0 87.7 98.5 102.4 106.3 107.7 140.2

500 81.9 85.7 85.8 90.8 87.4 88.5 90.9 92.0 87.8 98.8 102.5 105.4 105.8 139.3

630 82.5 86.5 87.6 89.2 88.4 89.3 91.2 93.1 88.1 99.4 102.3 104.4 104.1 138.8

800 84.9 87.7 89.2 89.1 90.7 92.1 94.5 90.0 100.3 102.6 102.6 102.6 102.6 138.5

1000 87.8 89.3 90.6 93.4 90.2 91.1 93.2 94.6 90.6 100.4 102.3 102.3 102.3 138.5

1250 86.3 91.0 90.6 94.1 91.4 92.8 94.2 95.1 90.8 100.4 101.8 101.9 101.0 138.5

1600 88.4 91.8 91.9 95.0 92.8 93.4 95.8 91.2 99.8 101.1 101.3 100.3 100.3 138.5

2000 89.0 91.9 92.1 95.2 92.1 92.9 94.9 96.5 91.9 100.6 100.9 100.7 99.7 138.5

2500 89.8 92.8 92.9 95.9 93.0 94.1 95.3 96.9 92.3 101.8 100.8 100.4 99.2 139.0

3150 91.6 94.7 94.2 97.0 93.6 94.6 96.8 98.0 93.6 101.9 102.4 101.8 101.1 140.1

4000 92.7 95.6 95.5 97.5 93.9 95.3 96.7 98.5 93.9 102.1 102.8 103.2 102.9 140.9

5000 97.8 100.5 99.1 98.7 95.1 95.8 97.2 99.0 95.0 104.3 104.9 106.0 105.5 143.2

6300 101.1 104.4 103.5 100.9 98.9 96.9 98.2 99.4 96.4 102.7 105.5 106.8 107.1 144.9

8000 101.0 105.9 106.9 102.8 100.6 99.1 99.7 98.1 98.1 102.7 104.2 106.1 106.3 146.3

10000 99.7 104.2 106.5 102.2 106.7 105.2 102.0 100.2 99.6 102.1 103.4 105.4 104.9 147.5

12500 98.7 100.8 104.1 100.4 105.4 105.9 104.0 101.1 97.2 100.1 101.3 103.2 102.9 147.3

16000 96.2 98.3 103.2 98.3 103.2 103.2 103.2 95.9 95.9 97.9 99.1 100.7 100.7 147.0

20000 94.4 96.8 99.2 97.5 100.8 101.8 100.7 94.6 95.9 97.2 99.0 99.7 97.7 146.8

25000 91.6 94.8 97.3 95.7 99.3 99.8 98.6 93.3 95.7 95.8 96.9 93.9 94.4 147.4

31500 89.4 90.1 92.4 90.6 94.1 95.7 95.0 93.8 89.1 91.6 91.6 91.8 87.8 145.8

40000 83.6 88.1 90.1 88.1 92.8 93.2 93.0 91.6 89.2 89.4 89.7 85.4 84.7 147.7

50000 81.6 85.9 88.7 86.5 90.2 91.0 89.9 84.6 87.2 88.4 88.1 82.3 82.3 149.8

63000 78.4 83.2 86.2 84.1 87.7 88.6 87.0 82.6 84.2 86.7 85.3 79.0 79.0 152.6

80000 72.4 80.7 83.8 81.9 83.9 85.3 82.7 79.5 81.9 83.4 82.3 74.4 74.4 156.1

QASPL 108.2 111.9 113.0 110.6 112.5 112.4 112.0 111.4 107.4 113.9 115.6 117.4 117.8 161.0

PWL 119.7 123.2 123.1 121.8 121.0 120.6 121.4 122.4 118.3 126.7 128.1 129.4 129.5

PNL 119.7 123.8 123.1 121.8 121.0 120.6 122.1 122.4 118.3 126.7 128.1 129.4 129.5

DBA 194.2 201.6 204.6 202.7 205.0 206.3 203.9 203.9 200.4 202.8 204.4 203.3 195.7

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICLE = ADH171 TEST DATE = 6-30-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX PAMB HG = 29.30 RELHUM = 77.2 PCT
IAPLHA = SB59 LEGA = NO MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = 0. FPS FLVEL = 0. FPS
WIND DIR = DEG WIND VEL = RPM XNHR XNH RPM V8 = 1724.7 FPS AEB AE18 = 19.9 SO IN
FMAMB = LBS XNLR = RPM XNHR XNH RPM V8 = 1724.7 FPS AEB AE18 = 19.9 SO IN
FMINI = LBS XNL = RPM XNHR XNH RPM V8 = 1724.7 FPS AEB AE18 = 19.9 SO IN
PMPNT = ZER-1519 TAPE = X1519F TEST PT NO = 1519 NC = AE049 CORR FAN SPEED = RPM

ORIGINAL PAGE 11
OF POOR QUALITY

DATE/DOC - FL/RAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1519 X15191

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PNL

| | | | | | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50 | 59.9 | 66.0 | 67.6 | 72.8 | 69.8 | 70.8 | 78.1 | 74.3 | 69.3 | 79.1 | 83.2 | 81.2 | 153.7 |
| 63 | 61.0 | 66.3 | 67.4 | 73.1 | 70.1 | 71.4 | 73.6 | 74.4 | 69.4 | 79.4 | 81.5 | 82.2 | 157.7 |
| 80 | 61.5 | 67.0 | 69.1 | 74.4 | 71.2 | 72.2 | 73.9 | 75.4 | 69.6 | 79.9 | 81.2 | 77.4 | 157.3 |
| 100 | 63.8 | 68.1 | 70.7 | 75.5 | 71.8 | 73.5 | 74.8 | 76.7 | 71.5 | 80.7 | 81.5 | 79.2 | 157.0 |
| 125 | 66.5 | 69.7 | 72.0 | 75.5 | 72.8 | 73.8 | 75.8 | 76.8 | 72.0 | 80.8 | 81.1 | 79.2 | 157.0 |
| 160 | 64.8 | 71.2 | 71.9 | 76.1 | 73.9 | 75.4 | 76.7 | 77.1 | 72.1 | 80.6 | 80.3 | 78.2 | 157.0 |
| 200 | 66.7 | 71.7 | 73.1 | 76.9 | 75.1 | 75.9 | 77.6 | 77.7 | 72.3 | 79.7 | 79.5 | 77.2 | 156.9 |
| 250 | 67.0 | 71.6 | 73.0 | 76.9 | 74.2 | 75.2 | 77.0 | 78.2 | 72.7 | 80.3 | 78.9 | 76.2 | 157.0 |
| 315 | 67.4 | 72.2 | 73.5 | 77.3 | 74.9 | 76.1 | 78.3 | 78.3 | 72.9 | 81.2 | 78.4 | 75.3 | 157.5 |
| 400 | 68.7 | 73.6 | 74.4 | 78.1 | 75.1 | 76.3 | 78.3 | 79.1 | 73.8 | 80.8 | 79.5 | 76.1 | 158.6 |
| 500 | 69.3 | 74.2 | 75.4 | 78.3 | 75.1 | 76.8 | 78.0 | 79.3 | 73.8 | 80.7 | 79.5 | 76.8 | 159.4 |
| 630 | 73.9 | 78.7 | 79.1 | 76.1 | 77.0 | 78.2 | 79.5 | 74.6 | 82.5 | 81.0 | 78.9 | 73.1 | 161.7 |
| 800 | 76.7 | 82.2 | 82.8 | 80.2 | 79.7 | 77.8 | 78.9 | 75.6 | 80.5 | 81.1 | 79.1 | 73.5 | 163.4 |
| 1000 | 76.2 | 83.4 | 86.0 | 81.6 | 83.4 | 81.4 | 79.7 | 77.2 | 80.2 | 79.4 | 77.5 | 71.4 | 164.7 |
| 1250 | 72.4 | 81.3 | 85.3 | 82.1 | 87.2 | 85.9 | 82.4 | 80.0 | 78.4 | 79.3 | 78.0 | 76.1 | 166.0 |
| 1600 | 72.5 | 77.3 | 82.5 | 79.9 | 85.6 | 86.3 | 84.1 | 80.7 | 75.6 | 76.7 | 75.1 | 72.6 | 165.8 |
| 2000 | 69.0 | 75.8 | 79.2 | 77.6 | 83.2 | 84.2 | 83.8 | 81.6 | 73.9 | 73.9 | 72.0 | 68.5 | 165.5 |
| 2500 | 65.5 | 71.5 | 76.3 | 76.1 | 80.3 | 81.5 | 81.1 | 79.4 | 71.7 | 70.6 | 68.3 | 64.0 | 165.3 |
| 3150 | 59.2 | 67.1 | 72.5 | 72.8 | 77.4 | 78.3 | 77.9 | 75.7 | 68.5 | 68.0 | 63.5 | 56.9 | 165.8 |
| 4000 | 47.4 | 57.7 | 63.8 | 64.6 | 69.2 | 71.3 | 70.1 | 67.6 | 60.6 | 59.2 | 53.0 | 42.9 | 164.3 |
| 5000 | 35.3 | 48.1 | 55.3 | 56.5 | 62.9 | 63.8 | 63.1 | 60.0 | 51.6 | 49.2 | 42.1 | 27.1 | 166.2 |
| 6300 | 15.5 | 31.7 | 41.9 | 44.1 | 50.3 | 51.8 | 50.0 | 46.6 | 37.8 | 33.0 | 22.3 | 1.4 | 168.3 |
| 8000 | 4.2 | 18.0 | 22.5 | 29.6 | 31.6 | 28.9 | 25.4 | 14.4 | 5.2 | | | | 174.6 |

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OF POOR QUALITY

MODEL AREA = 128.3 SQ CM (19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICL = ADH171 TEST DATE = 6-30-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS

IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.30 RELHUM = 77.2 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR

FMINI = LBS XNL RPM XNH XNHR = RPM V8 = 1724.7 FPS AE8 = 19.9 SQ IN

FNRMB = LBS XNLR = RPM V18 = 1724.7 FPS AE18 = 0. SQ IN

RUNPT = 82F-ZER-1519 TAPE = X15191 TEST PT NO = 1519 NC = AE049 CORR FAN SPEED = RPM

IDENTIFICATION - MODEL 82F-ZER-1521 X1521C

BACKGROUNND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

[illegible]

PWL

**ORIGINAL PAGE IS
OF POOR QUALITY**

| FREQ | 50 | 78.0 | 82.3 | 84.8 | 81.6 | 82.7 | 79.6 | 87.0 | 82.6 | 74.8 | 78.9 | 83.8 | 87.2 | 87.6 | 125.4 | PWL |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| 63 | 81.7 | 90.5 | 94.8 | 90.3 | 91.9 | 88.0 | 97.9 | 91.1 | 82.5 | 85.8 | 85.2 | 91.9 | 92.1 | 134.0 | | |
| 80 | 82.9 | 88.0 | 84.5 | 84.8 | 84.9 | 87.0 | 88.1 | 86.8 | 80.5 | 86.3 | 87.7 | 91.6 | 92.8 | 129.1 | | |
| 100 | 83.2 | 88.7 | 85.6 | 87.1 | 87.5 | 88.3 | 87.6 | 89.3 | 82.3 | 88.8 | 92.5 | 95.9 | 97.8 | 131.8 | | |
| 125 | 81.6 | 85.1 | 86.9 | 85.7 | 88.0 | 88.2 | 89.3 | 88.4 | 82.7 | 90.2 | 95.9 | 99.8 | 101.2 | 134.1 | | |
| 150 | 80.0 | 78.8 | 85.1 | 84.8 | 84.7 | 85.1 | 90.9 | 85.8 | 81.6 | 88.9 | 95.8 | 99.4 | 102.9 | 134.2 | | |
| 200 | 79.6 | 83.6 | 84.6 | 85.3 | 86.6 | 90.3 | 89.9 | 84.9 | 92.2 | 96.8 | 102.3 | 104.2 | 113.6 | | | |
| 250 | 79.8 | 86.8 | 84.6 | 85.8 | 89.4 | 88.0 | 90.6 | 86.1 | 95.9 | 102.9 | 106.2 | 107.9 | 119.7 | | | |
| 315 | 80.8 | 85.8 | 85.8 | 88.0 | 89.1 | 91.5 | 91.9 | 87.6 | 96.9 | 101.5 | 106.5 | 108.4 | 140.1 | | | |
| 400 | 80.9 | 85.4 | 85.9 | 87.3 | 88.4 | 91.0 | 87.3 | 88.2 | 98.7 | 106.8 | 107.7 | 114.0 | | | | |
| 500 | 82.2 | 85.0 | 86.8 | 87.6 | 89.7 | 90.6 | 89.8 | 88.5 | 99.1 | 102.8 | 104.7 | 104.4 | 139.2 | | | |
| 630 | 82.8 | 86.5 | 88.1 | 92.6 | 88.7 | 89.8 | 91.4 | 93.1 | 102.5 | 105.9 | 104.7 | 104.4 | 139.2 | | | |
| 800 | 85.4 | 87.4 | 89.2 | 93.7 | 89.8 | 91.0 | 92.1 | 94.7 | 100.2 | 103.4 | 102.8 | 102.2 | 138.9 | | | |
| 1000 | 87.8 | 88.8 | 90.8 | 93.9 | 90.7 | 91.6 | 93.7 | 94.9 | 91.1 | 100.9 | 102.3 | 102.7 | 138.7 | | | |
| 1250 | 86.3 | 91.0 | 91.3 | 94.6 | 91.7 | 92.8 | 94.2 | 95.6 | 91.3 | 100.9 | 102.8 | 101.7 | 138.9 | | | |
| 1600 | 88.9 | 91.5 | 92.2 | 93.7 | 93.1 | 93.7 | 95.3 | 96.3 | 92.2 | 100.0 | 102.4 | 102.1 | 139.1 | | | |
| 2000 | 88.8 | 92.4 | 92.6 | 95.5 | 92.8 | 93.4 | 94.9 | 97.0 | 92.1 | 100.9 | 101.2 | 101.0 | 138.8 | | | |
| 2500 | 90.3 | 93.3 | 93.4 | 96.2 | 93.0 | 94.1 | 95.3 | 97.2 | 92.5 | 102.8 | 100.3 | 100.9 | 139.5 | | | |
| 3150 | 91.6 | 95.2 | 94.5 | 97.5 | 94.1 | 95.1 | 97.0 | 98.0 | 94.3 | 102.6 | 102.4 | 100.6 | 140.4 | | | |
| 4000 | 93.0 | 96.4 | 96.8 | 98.0 | 94.6 | 96.7 | 99.3 | 94.2 | 102.3 | 103.1 | 103.7 | 102.7 | 141.2 | | | |
| 5000 | 98.5 | 100.5 | 99.6 | 98.9 | 95.8 | 96.6 | 97.2 | 99.3 | 95.2 | 104.6 | 104.9 | 106.0 | 143.4 | | | |
| 6300 | 101.4 | 104.9 | 104.0 | 99.8 | 99.4 | 96.9 | 100.4 | 96.9 | 103.2 | 105.0 | 107.1 | 106.1 | 145.0 | | | |
| 8000 | 101.5 | 106.1 | 107.2 | 102.8 | 102.8 | 98.6 | 101.1 | 98.8 | 100.2 | 103.2 | 104.2 | 106.2 | 146.5 | | | |
| 10000 | 99.5 | 104.2 | 107.0 | 102.5 | 107.2 | 105.5 | 102.5 | 100.4 | 99.6 | 102.6 | 103.1 | 104.4 | 147.8 | | | |
| 12500 | 98.7 | 100.8 | 103.6 | 100.6 | 105.4 | 106.2 | 104.0 | 101.9 | 97.7 | 100.6 | 100.8 | 104.2 | 101.9 | 147.4 | | |
| 15000 | 95.7 | 99.8 | 101.5 | 98.6 | 102.9 | 103.4 | 104.0 | 102.8 | 96.1 | 98.9 | 99.1 | 101.2 | 99.5 | 147.1 | | |
| 20000 | 94.2 | 97.3 | 99.2 | 97.7 | 100.8 | 101.3 | 101.4 | 101.2 | 95.3 | 96.6 | 97.5 | 99.0 | 97.4 | 146.8 | | |
| 25000 | 91.1 | 95.5 | 97.3 | 96.2 | 99.1 | 100.4 | 100.6 | 99.3 | 94.0 | 95.9 | 95.3 | 97.1 | 93.1 | 147.7 | | |
| 31500 | 85.7 | 90.6 | 91.9 | 94.1 | 94.4 | 95.7 | 95.2 | 94.0 | 91.9 | 92.6 | 88.1 | 145.9 | | | | |
| 40000 | 83.1 | 88.6 | 90.9 | 89.1 | 92.3 | 93.4 | 92.7 | 92.1 | 86.9 | 89.7 | 89.9 | 90.0 | 85.4 | 147.8 | | |
| 50000 | 80.6 | 86.6 | 88.7 | 87.0 | 90.5 | 91.5 | 90.2 | 89.2 | 85.1 | 88.2 | 87.4 | 88.6 | 81.6 | 150.1 | | |
| 63000 | 78.4 | 84.2 | 86.9 | 84.9 | 87.9 | 88.8 | 87.0 | 87.8 | 82.9 | 86.0 | 85.7 | 86.1 | 77.8 | 153.1 | | |
| 80000 | 71.9 | 81.7 | 83.8 | 81.9 | 84.7 | 85.6 | 83.4 | 83.4 | 79.5 | 81.4 | 82.1 | 81.6 | 71.6 | 156.3 | | |
| DBA | 106.7 | 110.4 | 111.0 | 109.1 | 108.9 | 108.1 | 108.1 | 108.1 | 105.7 | 113.6 | 114.7 | 115.8 | 115.1 | | | |
| PWL | 119.9 | 123.5 | 123.4 | 122.1 | 121.5 | 120.8 | 122.3 | 122.9 | 118.7 | 127.1 | 128.2 | 129.7 | 129.1 | | | |
| QASPL | 108.4 | 112.1 | 113.3 | 110.9 | 112.7 | 112.5 | 112.2 | 111.9 | 107.8 | 114.4 | 115.8 | 117.8 | 117.8 | 161.3 | | |
| NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514 | | | | | | | | | | | | | | | | |
| VEHICL = ADH172 TEST DATE = 6-30-82 LOCAL = C41 ANECH CH CONFIG = 5 MODEL = AX FLVEL = 0. FPS | | | | | | | | | | | | | | | | |
| LAPLHA = SB59 DEGA = NO PML AREA = FULL SPHERE TAMB F = 71.00 MIKE HT = 29.30 RELHUM = 77.2 PCT | | | | | | | | | | | | | | | | |
| WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR = 0. FPS | | | | | | | | | | | | | | | | |
| FININI = LBS XNLR = RPM XNHR = RPM V8 = = 1733.6 FPS AE8 = 19.9 SO IN CORR FAN SPEED = RPM | | | | | | | | | | | | | | | | |
| FMAMB = LBS XNLR = RPM XNHR = RPM V8 = = AE049 NC = = 1521 TEST PT NO = = X1521C = 02F-ZER-1521 TAPE | | | | | | | | | | | | | | | | |

DATEPROC - FL AN

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1521 X1521F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PWL | 78.0 | 82.3 | 84.8 | 81.6 | 82.7 | 79.6 | 87.0 | 82.6 | 74.8 | 78.9 | 83.8 | 87.2 | 87.6 |
| 50 | 81.7 | 90.5 | 94.8 | 90.3 | 91.9 | 88.0 | 97.9 | 91.1 | 82.5 | 85.8 | 85.2 | 92.1 | 134.0 |
| 63 | 82.9 | 88.0 | 84.5 | 84.8 | 84.9 | 87.0 | 88.1 | 86.8 | 80.5 | 86.3 | 87.7 | 91.6 | 92.8 |
| 100 | 83.2 | 86.7 | 84.8 | 85.6 | 87.1 | 87.5 | 87.6 | 89.3 | 82.3 | 88.8 | 92.5 | 95.9 | 97.8 |
| 125 | 81.6 | 85.1 | 86.9 | 85.7 | 88.0 | 88.2 | 89.3 | 88.4 | 82.7 | 89.8 | 95.9 | 101.2 | 134.1 |
| 160 | 80.0 | 78.8 | 85.1 | 84.8 | 84.7 | 85.1 | 90.9 | 85.8 | 81.6 | 88.9 | 95.8 | 102.9 | 134.2 |
| 200 | 79.6 | 83.6 | 84.6 | 88.2 | 85.3 | 86.6 | 90.3 | 89.9 | 84.9 | 92.2 | 96.8 | 102.3 | 104.2 |
| 250 | 79.8 | 86.8 | 89.4 | 86.5 | 89.1 | 90.5 | 90.6 | 86.1 | 95.9 | 102.0 | 106.2 | 107.9 | 139.7 |
| 315 | 80.8 | 85.8 | 85.8 | 85.8 | 88.0 | 89.1 | 91.5 | 91.9 | 87.6 | 96.9 | 101.5 | 106.5 | 140.1 |
| 400 | 80.9 | 85.4 | 85.9 | 91.0 | 87.3 | 88.4 | 95.6 | 92.0 | 88.2 | 98.7 | 102.4 | 106.8 | 140.4 |
| 500 | 82.2 | 85.0 | 85.8 | 87.6 | 88.7 | 90.6 | 92.0 | 88.5 | 99.1 | 102.5 | 105.9 | 106.3 | 139.6 |
| 630 | 82.8 | 86.5 | 88.1 | 92.6 | 88.7 | 89.8 | 91.4 | 93.1 | 88.3 | 100.1 | 102.8 | 104.7 | 139.2 |
| 800 | 85.4 | 87.4 | 89.2 | 93.7 | 89.8 | 91.0 | 92.1 | 94.7 | 90.2 | 100.5 | 103.4 | 102.8 | 138.9 |
| 1000 | 87.8 | 88.8 | 90.8 | 93.9 | 90.7 | 91.6 | 93.7 | 94.9 | 91.1 | 100.9 | 102.3 | 102.7 | 138.7 |
| 1250 | 86.3 | 91.0 | 91.3 | 94.6 | 91.7 | 92.8 | 94.2 | 95.6 | 91.3 | 100.9 | 102.8 | 101.7 | 138.9 |
| 1600 | 86.9 | 91.5 | 92.2 | 95.7 | 93.1 | 93.7 | 95.3 | 96.3 | 92.2 | 100.0 | 102.4 | 101.1 | 139.1 |
| 2000 | 88.8 | 92.4 | 92.6 | 95.5 | 92.8 | 93.4 | 94.9 | 97.0 | 92.1 | 100.9 | 101.2 | 101.0 | 138.8 |
| 2500 | 90.3 | 93.3 | 93.4 | 96.2 | 93.0 | 94.1 | 95.3 | 97.2 | 92.5 | 102.8 | 101.3 | 100.9 | 139.5 |
| 3150 | 91.6 | 95.2 | 94.5 | 97.5 | 94.1 | 95.1 | 97.0 | 98.0 | 94.3 | 102.6 | 102.4 | 102.7 | 141.2 |
| 4000 | 93.0 | 95.4 | 96.8 | 98.0 | 94.6 | 94.6 | 96.7 | 99.3 | 94.2 | 102.3 | 103.1 | 103.7 | 141.2 |
| 5000 | 98.5 | 100.5 | 99.6 | 98.9 | 95.8 | 96.6 | 97.2 | 99.3 | 95.2 | 104.6 | 104.9 | 105.0 | 143.4 |
| 6300 | 101.4 | 104.9 | 104.0 | 99.8 | 96.9 | 98.2 | 100.4 | 96.9 | 98.2 | 105.0 | 107.1 | 106.1 | 145.0 |
| 8000 | 101.5 | 106.1 | 107.2 | 102.1 | 102.8 | 101.1 | 98.8 | 100.2 | 98.4 | 103.2 | 104.2 | 105.6 | 146.5 |
| 10000 | 99.5 | 104.2 | 107.0 | 102.5 | 107.2 | 105.5 | 102.5 | 100.4 | 99.6 | 102.6 | 103.1 | 106.1 | 147.8 |
| 12500 | 97.7 | 100.6 | 103.6 | 100.6 | 103.4 | 103.4 | 104.0 | 101.9 | 97.7 | 100.6 | 100.8 | 104.2 | 147.4 |
| 16000 | 95.7 | 99.8 | 101.5 | 98.6 | 102.9 | 103.4 | 102.8 | 96.1 | 98.9 | 99.1 | 101.2 | 99.5 | 147.1 |
| 20000 | 94.2 | 97.3 | 99.2 | 97.7 | 100.8 | 101.3 | 101.4 | 95.3 | 96.6 | 97.5 | 99.0 | 97.4 | 146.8 |
| 25000 | 91.1 | 95.5 | 97.3 | 96.2 | 99.1 | 100.4 | 100.6 | 99.3 | 94.0 | 95.9 | 95.3 | 97.1 | 147.7 |
| 31500 | 85.7 | 90.6 | 91.9 | 91.1 | 94.4 | 95.7 | 92.4 | 89.4 | 89.4 | 91.6 | 92.6 | 88.1 | 145.9 |
| 40000 | 83.1 | 88.6 | 90.9 | 89.1 | 92.3 | 93.4 | 92.7 | 92.1 | 86.9 | 89.7 | 89.9 | 90.0 | 147.8 |
| 50000 | 80.6 | 86.6 | 88.7 | 87.0 | 90.5 | 91.5 | 90.2 | 89.2 | 85.1 | 88.2 | 87.4 | 88.6 | 150.1 |
| 63000 | 78.4 | 84.2 | 86.9 | 84.9 | 87.9 | 88.8 | 87.0 | 87.8 | 82.9 | 86.0 | 85.7 | 86.1 | 153.1 |
| 80000 | 71.9 | 81.7 | 83.8 | 81.9 | 84.7 | 85.6 | 83.4 | 83.4 | 79.5 | 81.4 | 82.1 | 81.6 | 156.3 |
| GASPL | 108.4 | 112.1 | 113.3 | 110.9 | 112.7 | 112.5 | 112.2 | 111.9 | 107.8 | 114.4 | 115.8 | 117.8 | 161.3 |
| PMLT | 119.9 | 123.5 | 123.4 | 122.1 | 121.5 | 120.8 | 122.3 | 122.9 | 118.7 | 127.1 | 128.2 | 129.7 | 129.1 |
| DBA | 193.8 | 202.6 | 204.7 | 202.8 | 205.7 | 206.6 | 204.5 | 204.6 | 200.6 | 202.7 | 203.2 | 202.8 | 193.5 |

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OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICL = ADH172 TEST DATE = 6-30-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS
 IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.30 RELHUM = 77.2 PCT
 WIND DIR = SB59 DEG WIND VEL = NO MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = 19.9 SO IN
 FMINI = LBS XNL RPM XNH XNHR = RPM V8 = 1733.6 FPS AE8 = 19.9 SO IN
 FMRAMB = LBS XNLR = RPM XNH XNHR = RPM V8 = 1733.6 FPS AE18 = 0. SO IN
 RUNPT = 82F-ZER-1521 TAPE = X1521F TEST PT NO = 1521 NC = AE049 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1521 X15211

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 59.9 66.0 67.6 73.3 70.1 71.3 78.3 74.3 69.8 79.3 81.4 83.7 81.2 158.9

63 61.2 65.5 67.4 74.1 70.4 71.6 73.4 70.1 79.6 81.5 82.7 79.7 158.1

80 61.7 67.0 69.6 74.9 71.4 72.7 74.2 75.4 69.9 80.6 81.7 81.4 77.7 157.6

100 64.3 67.9 70.7 76.0 72.5 73.8 74.8 77.0 71.7 81.0 82.3 79.5 75.4 157.4

125 66.5 69.2 72.6 76.6 73.3 74.3 76.3 77.0 72.5 81.3 79.2 73.6 157.2

150 64.8 71.2 72.6 76.6 74.2 75.4 76.7 77.6 72.6 81.1 77.9 73.8 157.4

200 67.2 71.5 73.3 77.6 75.4 76.1 77.6 78.2 73.3 80.0 78.0 73.2 157.6

250 66.8 72.1 73.5 77.2 74.9 75.7 77.0 78.7 73.0 80.6 79.2 76.5 157.3

315 67.9 72.7 74.0 77.6 74.9 76.1 77.2 78.6 73.1 82.2 78.9 75.8 157.9

400 68.7 74.1 74.7 78.6 76.6 76.8 78.6 79.1 74.5 81.6 79.5 76.3 158.9

500 69.6 74.0 76.7 78.8 76.0 76.0 78.0 80.1 74.1 80.9 79.7 77.3 159.7

630 74.7 79.2 79.4 76.8 77.7 78.2 79.7 74.8 82.8 81.0 78.9 72.6 161.9

800 77.0 82.7 83.3 80.0 80.2 77.8 78.9 80.6 76.1 81.0 80.6 79.3 163.5

1000 76.7 83.6 86.2 82.1 83.4 81.9 79.4 80.2 77.4 80.7 79.4 77.8 165.0

1250 74.2 81.3 85.8 82.3 87.7 86.1 82.9 80.3 78.4 79.8 77.8 76.9 166.3

1500 72.5 77.3 82.0 80.2 85.6 86.6 84.1 81.4 76.1 77.2 74.6 73.6 165.9

2000 68.5 75.8 79.5 77.9 83.0 83.7 84.0 82.1 74.1 74.9 72.0 69.0 165.6

2500 65.2 72.0 76.3 76.4 80.3 81.0 80.8 79.9 72.4 71.4 68.5 64.0 165.3

3150 58.7 67.8 72.5 73.3 77.2 78.8 78.7 76.4 69.3 68.2 63.0 57.1 166.2

4000 47.1 58.2 63.3 64.9 69.5 71.3 70.3 67.8 60.8 59.5 53.0 43.6 164.4

5000 34.8 48.6 56.1 57.5 62.4 64.1 62.9 60.5 52.1 49.7 41.6 27.3 166.3

6300 14.5 32.4 41.9 44.6 50.5 52.3 50.2 46.8 38.3 34.0 21.3 1.9 168.5

8000 5.2 18.7 23.2 29.8 31.9 28.9 26.1 14.7 7.0 171.5

10000 174.8

12500 174.8

15000 174.8

17500 174.8

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4.7 Acoustic Data of Model 6

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0601 X0601F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 80.8 81.6 85.6 84.6 82.7 79.8 85.0 85.9 81.8 85.4 86.5 92.5 89.4 127.5

63 84.5 89.0 95.3 93.6 92.1 88.0 95.6 94.1 86.0 93.6 90.5 98.2 94.1 135.2

80 85.2 90.0 87.2 87.0 89.6 89.3 90.2 89.1 91.9 95.6 96.3 132.3

100 86.2 93.0 88.8 90.1 91.4 91.6 93.6 91.8 93.6 96.5 99.9 101.6 136.0

125 82.6 87.6 89.2 89.7 90.8 91.9 92.8 92.9 92.2 95.2 100.6 103.8 104.7 138.2

150 83.0 82.8 87.6 86.1 87.9 87.8 94.7 90.8 91.6 96.6 102.0 104.9 107.1 139.3

200 84.6 86.6 86.6 88.5 90.4 93.0 92.7 96.4 98.2 103.8 107.5 108.9 141.3

250 85.3 88.1 88.3 89.1 89.0 90.3 93.2 95.9 97.3 103.7 109.5 112.0 111.9 145.4

315 83.8 87.8 88.6 88.9 91.0 93.1 95.2 95.9 99.6 106.2 110.8 113.5 113.1 146.9

400 85.4 89.2 89.2 91.8 92.2 99.1 97.0 101.2 109.3 112.9 114.6 112.7 148.3

500 86.2 88.7 89.8 90.5 91.9 93.5 94.9 98.3 102.3 111.1 115.2 115.1 149.6

630 87.3 90.1 91.3 91.9 93.2 94.8 96.7 99.4 102.8 112.9 116.3 116.5 150.9

800 90.9 91.4 93.5 93.5 94.3 96.2 97.6 101.5 105.0 113.5 117.7 116.8 151.8

1000 97.3 97.6 97.3 95.9 96.5 96.8 99.0 101.9 106.1 112.4 117.0 117.2 151.6

1250 94.8 100.3 100.6 100.1 99.9 99.6 100.7 102.6 106.6 112.4 116.8 117.7 151.9

1500 93.6 95.0 97.2 97.2 99.6 100.2 102.0 103.8 106.9 110.5 115.6 116.8 151.0

1600 93.6 95.0 97.2 97.2 99.6 100.2 102.0 103.8 106.9 110.5 115.6 116.8 151.0

2000 94.8 96.7 97.4 96.5 97.3 98.7 100.7 104.2 106.6 110.4 114.4 115.0 149.8

2500 94.3 96.8 97.2 96.7 97.8 98.9 100.3 104.2 106.3 110.1 112.9 112.9 148.5

3150 94.6 96.0 96.2 95.5 97.3 99.4 101.3 104.3 106.6 108.7 111.9 111.3 147.7

4000 91.8 93.4 95.0 95.3 96.6 98.1 100.5 103.6 105.8 107.2 109.0 108.5 145.9

5000 92.1 94.1 95.2 94.7 96.4 98.6 100.5 103.6 105.8 107.2 109.0 108.5 145.9

6300 92.2 94.5 95.1 94.6 96.5 97.5 100.0 103.5 105.5 106.9 107.4 104.2 145.1

8000 93.7 97.3 96.6 94.7 95.2 97.5 99.7 103.1 104.5 105.6 105.6 102.5 144.7

10000 94.2 99.5 97.2 99.5 98.0 100.2 102.4 104.1 105.9 105.2 104.0 103.5 145.6

12500 93.5 96.7 100.7 101.2 101.3 98.7 98.1 101.0 102.3 104.0 103.5 103.8 145.6

15000 90.7 94.6 96.3 96.6 100.0 99.4 97.3 98.6 100.2 100.9 101.5 101.5 144.7

20000 88.7 91.9 94.0 94.3 96.3 96.8 96.8 97.9 97.9 99.1 99.5 97.4 144.3

25000 85.1 89.5 92.0 93.1 95.4 96.2 96.4 95.2 95.5 97.5 97.0 97.7 145.1

31500 78.8 84.7 87.2 87.3 90.0 91.8 91.1 91.0 91.0 92.9 94.6 93.9 143.8

40000 76.2 82.2 85.0 84.5 88.7 89.5 88.8 88.8 89.5 91.5 93.2 91.3 145.9

50000 69.9 73.9 75.4 79.7 79.5 82.7 84.6 86.2 87.0 88.9 90.3 87.8 151.6

60000 64.1 71.5 75.5 75.9 78.1 80.0 77.6 78.6 84.5 86.8 87.1 83.3 155.0

DBA 185.8 192.7 196.7 196.9 199.5 201.3 199.1 200.0 205.3 207.5 208.1 204.5 193.6

PWL 119.7 121.7 122.1 121.7 121.7 123.2 126.0 128.0 130.3 133.8 136.9 137.4 135.7

PWL 118.2 120.4 121.0 120.5 121.7 123.2 125.3 128.0 130.3 133.8 136.9 137.4 135.7

DBA 105.9 108.8 110.0 109.5 110.5 111.1 112.7 115.2 117.6 122.4 126.2 126.7 125.0 163.2

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICLE = ADH144 TEST DATE = 06-25-82 LQCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 0. FPS

WIND DIR = SB59 WIND VEL = NO MPH EXT AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.50 RELHUM = 47.1 PCT

FNIN1 = LBS XNL = RPM XNH = RPM XNHR = RPM V8 = 2273.1 FPS AEB = 19.9 SQ IN

FNIN1 = LBS XNL = RPM XNH = RPM XNHR = RPM V8 = 2273.1 FPS AEB = 19.9 SQ IN

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FNIN1 = LBS XNL = RPM XNH = RPM XNHR = RPM V8 = 2273.1 FPS AEB = 19.9 SQ IN

FNIN1 = LBS XNL = RPM XNH = RPM XNHR = RPM V8 = 2273.1 FPS AEB = 19.9 SQ IN

FNIN1 = LBS XNL = RPM XNH = RPM XNHR = RPM V8 = 2273.1 FPS AEB = 19.9 SQ IN

DATPROC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0601 X06011

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

| | | | | | | | | | | | | | | |
|-------|------|------|------|------|------|------|------|------|------|------|------|-------|------|-------|
| PWL | 64.4 | 69.0 | 70.8 | 71.6 | 74.6 | 75.1 | 81.8 | 79.3 | 82.8 | 89.8 | 91.9 | 91.4 | 86.2 | 166.7 |
| 50 | 64.4 | 69.0 | 70.8 | 71.6 | 74.6 | 75.1 | 81.8 | 79.3 | 82.8 | 89.8 | 91.9 | 91.4 | 86.2 | 166.7 |
| 63 | 65.2 | 69.3 | 71.4 | 72.9 | 74.6 | 77.6 | 80.6 | 83.9 | 87.9 | 91.6 | 94.2 | 91.9 | 87.0 | 168.1 |
| 80 | 66.2 | 70.6 | 72.9 | 74.2 | 75.9 | 77.7 | 80.3 | 84.7 | 88.1 | 91.7 | 94.2 | 91.9 | 87.9 | 169.4 |
| 100 | 69.8 | 71.9 | 75.0 | 75.8 | 77.0 | 79.0 | 80.3 | 83.8 | 86.5 | 94.0 | 95.2 | 93.2 | 87.9 | 169.4 |
| 125 | 76.0 | 77.9 | 78.8 | 78.1 | 79.1 | 79.6 | 81.6 | 84.1 | 87.5 | 92.8 | 95.8 | 93.7 | 88.1 | 170.1 |
| 160 | 73.3 | 80.5 | 81.9 | 82.2 | 82.4 | 82.2 | 83.2 | 84.7 | 87.9 | 92.6 | 95.3 | 93.9 | 88.0 | 170.3 |
| 200 | 71.9 | 75.0 | 78.3 | 79.1 | 81.9 | 82.6 | 84.3 | 85.7 | 88.1 | 90.5 | 94.0 | 92.7 | 87.2 | 169.4 |
| 250 | 72.8 | 76.4 | 78.3 | 78.2 | 79.5 | 81.0 | 82.8 | 85.9 | 87.5 | 90.1 | 92.4 | 90.5 | 85.0 | 168.3 |
| 315 | 71.9 | 76.2 | 77.7 | 78.1 | 79.6 | 80.9 | 82.2 | 85.6 | 86.9 | 89.5 | 90.4 | 87.8 | 81.6 | 167.0 |
| 400 | 71.7 | 74.9 | 76.5 | 76.6 | 78.9 | 81.1 | 82.8 | 85.3 | 86.8 | 87.6 | 89.0 | 85.6 | 79.3 | 166.2 |
| 500 | 68.4 | 72.0 | 75.0 | 76.1 | 77.9 | 79.5 | 81.5 | 84.6 | 85.4 | 86.0 | 86.5 | 83.1 | 75.4 | 164.7 |
| 630 | 68.2 | 72.3 | 74.8 | 75.2 | 77.4 | 79.8 | 81.5 | 84.1 | 85.4 | 85.3 | 85.1 | 81.5 | 72.9 | 164.4 |
| 800 | 67.8 | 72.3 | 74.4 | 74.8 | 77.3 | 78.4 | 80.8 | 83.7 | 84.7 | 83.4 | 82.5 | 79.7 | 70.6 | 163.5 |
| 1000 | 68.8 | 74.8 | 75.6 | 74.8 | 75.8 | 78.3 | 80.3 | 83.1 | 83.6 | 82.9 | 80.8 | 77.2 | 67.8 | 163.2 |
| 1250 | 68.9 | 77.1 | 80.5 | 79.3 | 77.9 | 78.6 | 80.7 | 82.3 | 82.9 | 83.1 | 79.8 | 76.1 | 65.7 | 164.2 |
| 1600 | 67.3 | 73.2 | 80.8 | 81.4 | 79.1 | 78.2 | 80.5 | 80.7 | 78.2 | 76.8 | 73.3 | 69.3 | 57.0 | 164.1 |
| 2000 | 63.5 | 70.6 | 74.3 | 75.9 | 75.8 | 77.8 | 76.4 | 75.4 | 75.1 | 72.6 | 70.1 | 64.5 | 51.0 | 162.8 |
| 2500 | 59.7 | 66.7 | 71.2 | 72.9 | 75.8 | 77.8 | 76.4 | 75.4 | 75.1 | 72.6 | 70.1 | 64.5 | 51.0 | 162.8 |
| 3150 | 52.8 | 61.8 | 67.3 | 70.1 | 73.5 | 74.6 | 74.5 | 72.3 | 70.8 | 69.8 | 64.7 | 57.7 | 39.1 | 163.6 |
| 4000 | 40.2 | 52.3 | 58.6 | 61.1 | 65.1 | 67.4 | 66.2 | 64.8 | 62.4 | 60.5 | 56.0 | 45.0 | 18.9 | 162.3 |
| 5000 | 27.9 | 42.3 | 50.2 | 52.9 | 58.8 | 60.2 | 59.0 | 57.2 | 54.7 | 51.5 | 44.9 | 28.7 | 3.2 | 167.2 |
| 6300 | 7.8 | 25.0 | 35.2 | 40.0 | 46.2 | 48.4 | 46.9 | 43.8 | 42.1 | 36.9 | 25.9 | 170.1 | | |
| 8000 | | | | | | | | | | | | | | |
| 10000 | | | | | | | | | | | | | | |
| 12500 | | | | | | | | | | | | | | |
| 16000 | | | | | | | | | | | | | | |
| 20000 | | | | | | | | | | | | | | |
| 25000 | | | | | | | | | | | | | | |
| 31500 | | | | | | | | | | | | | | |
| 40000 | | | | | | | | | | | | | | |
| 50000 | | | | | | | | | | | | | | |
| 63000 | | | | | | | | | | | | | | |
| 80000 | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | |
|-------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| OASPL | 82.8 | 87.3 | 89.6 | 90.0 | 91.4 | 92.3 | 93.8 | 96.0 | 97.9 | 102.0 | 104.3 | 102.2 | 96.7 | 181.5 |
| PWL | 87.9 | 93.6 | 97.7 | 98.8 | 100.6 | 101.3 | 101.3 | 102.5 | 104.0 | 105.8 | 106.2 | 104.8 | 97.1 | |
| PNT | 88.7 | 94.7 | 98.7 | 99.9 | 100.6 | 101.3 | 101.9 | 102.9 | 104.0 | 105.8 | 106.2 | 104.8 | 97.1 | |
| DBA | 77.4 | 83.2 | 86.4 | 86.9 | 88.4 | 88.9 | 89.6 | 91.7 | 92.6 | 93.1 | 93.4 | 90.7 | 84.1 | |

MODEL AREA = 128.3 SQ CM (19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICLE = ADH144 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLVEL = 0. FPS
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.50 REIHUM = 47.1 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBRF

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0602 X0602C
BACKGROUND 82F-400-0600 X06000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 83.2 80.7 81.3 78.2 78.6 80.7 80.7 89.1 90.2 94.3 126.0

63 86.1 88.7 89.3 86.3 86.3 88.6 89.2 84.1 90.5 93.5 131.2

80 85.1 89.7 86.0 87.4 86.6 87.1 89.2 88.5 90.0 91.4 89.3 87.0 93.6 96.4 100.4 133.9

100 85.3 90.4 86.6 87.1 89.2 88.5 90.0 91.4 89.3 87.0 93.6 96.4 100.4 133.9

125 82.4 85.2 87.5 88.3 89.7 89.8 91.1 90.6 89.3 88.8 98.3 102.0 103.9 136.4

160 80.3 79.2 84.3 83.6 85.4 84.0 92.1 86.6 87.6 89.3 99.2 102.9 105.6 137.0

200 81.3 81.7 81.8 83.1 84.0 86.2 89.0 89.5 92.1 89.5 99.8 104.5 107.2 138.3

250 79.8 82.9 84.5 85.1 86.7 88.0 90.5 92.3 94.6 104.8 108.0 108.4 141.0

315 79.8 82.9 84.5 85.1 86.7 88.0 90.5 92.3 94.6 104.8 108.0 108.4 141.0

400 81.8 84.6 87.5 87.6 94.2 92.4 95.9 100.2 109.1 111.1 107.7 143.8

500 82.6 84.4 85.7 86.7 88.1 88.4 91.3 93.8 97.0 102.6 111.5 111.4 106.0 144.9

630 82.2 85.0 87.0 88.1 88.9 90.3 92.2 94.8 98.1 103.9 112.3 110.5 103.1 145.0

800 85.4 86.2 87.7 88.2 90.0 91.4 93.0 95.0 100.8 104.3 113.9 109.7 145.9

1000 88.3 87.8 89.3 89.1 91.2 91.8 94.7 97.9 100.8 103.4 113.5 107.5 97.6 145.3

1250 87.2 91.8 92.1 91.3 92.2 93.8 95.9 98.6 101.3 102.9 111.8 105.4 96.7 144.1

1600 88.4 89.5 91.2 91.7 94.0 94.9 96.8 99.3 102.7 101.3 109.9 102.3 95.1 142.9

2000 88.0 89.4 91.3 91.5 94.4 96.4 99.7 102.9 101.1 107.2 100.5 93.7 141.5

2500 88.6 90.3 91.6 91.4 93.3 94.6 96.6 99.9 102.3 101.8 105.4 97.9 92.2 140.8

3150 88.4 89.7 91.2 91.7 93.8 95.6 97.8 100.3 102.6 99.9 104.7 97.1 92.1 140.6

4000 88.5 88.9 91.3 91.8 93.4 94.6 97.0 100.6 102.0 99.1 102.4 95.7 90.2 139.8

5000 89.6 91.1 92.0 92.2 93.4 94.9 96.8 100.1 101.8 99.2 102.3 95.6 90.0 139.9

6300 91.5 92.6 92.6 92.1 94.0 95.3 97.3 100.7 102.2 98.4 101.7 95.4 90.2 140.3

8000 96.2 97.8 93.8 94.3 96.3 98.3 101.4 102.4 98.9 101.4 97.9 92.4 91.0 141.6

10000 98.6 102.8 103.3 100.1 97.0 98.0 98.8 101.3 103.7 100.8 102.7 97.9 92.4 144.5

12500 95.6 98.6 102.6 101.6 100.4 98.6 97.4 100.4 102.5 99.2 102.4 97.9 92.9 144.7

16000 92.4 96.4 98.3 98.6 100.7 99.4 98.0 98.9 100.7 97.1 101.0 97.0 92.2 144.6

20000 91.4 94.7 97.1 96.4 98.4 99.6 98.5 99.0 99.4 95.6 99.4 95.6 91.7 145.1

25000 88.7 93.2 95.7 95.0 97.0 98.3 98.0 97.9 98.7 93.8 96.9 94.6 89.0 146.4

31500 82.4 88.4 90.5 90.5 92.7 94.3 93.0 93.9 95.0 89.0 92.8 89.8 83.3 145.2

40000 79.6 84.7 88.0 87.7 90.6 91.2 91.3 92.5 85.3 90.1 87.0 80.3 80.3 146.6

50000 75.4 80.8 83.9 83.9 87.6 86.7 89.0 81.4 86.0 82.2 75.3 147.1

63000 69.3 75.5 78.8 78.9 82.3 81.0 82.5 84.3 76.3 81.3 76.5 68.4 147.3

80000 61.8 68.1 71.9 72.0 73.8 73.6 73.8 76.9 76.9 72.3 66.4 57.5 146.5

DBA 102.1 104.5 105.1 103.9 104.8 106.1 108.1 111.1 113.5 113.1 120.7 116.6 110.8

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH154 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 400. FPS

IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.40 RELHUM = 41.5 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFID = ARC MIKE HT = NBFR

FNINI = LBS XNL RPM XNHR = RPM V8 = 2273.9 FPS AE8 = 19.9 SQ IN

FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2273.9 FPS AE18 = 0. SQ IN

RUNPT = 82F-400-0602 TAPE = X0602C TEST PT NO = 0602 NC = AE048 CORR FAN SPEED = RPM

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IDENTIFICATION - 82F-400-0602 X0602F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | PWL |
|------|------|
| 40. | 160. |
| 50. | 150. |
| 60. | 140. |
| 70. | 130. |
| 80. | 120. |
| 90. | 110. |
| 100. | 100. |
| 110. | 90. |
| 120. | 80. |
| 130. | 70. |
| 140. | 60. |
| 150. | 50. |
| 160. | 40. |

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1619 X1619F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREE

60 78.5 79.8 83.8 84.4 81.7 78.1 86.7 87.6 80.6 79.4 87.0 86.0 87.1 128.2

63 80.7 89.2 84.3 92.8 89.4 84.8 97.4 87.1 88.5 87.8 92.5 90.9 90.6 134.8

80 80.4 88.0 84.5 85.5 87.5 87.6 87.7 87.7 88.7 87.1 92.6 93.8 129.9

100 84.0 89.5 85.5 86.3 87.4 87.8 88.4 90.6 88.5 89.1 93.2 96.9 98.6 132.7

125 83.4 86.6 88.4 88.7 89.8 89.7 90.3 90.2 89.4 91.2 97.6 101.8 103.2 136.1

160 82.0 79.5 85.8 84.1 86.2 86.6 91.4 87.3 87.8 90.4 97.5 101.7 104.9 136.1

200 81.3 85.1 86.1 85.9 87.0 87.9 91.0 91.4 92.4 93.7 99.3 104.3 107.2 138.5

250 81.5 89.1 86.3 85.9 87.2 90.1 91.7 92.9 93.3 98.4 105.0 109.5 110.4 142.6

315 83.3 87.1 87.3 88.9 90.5 90.6 92.7 94.1 95.6 100.2 105.8 111.0 112.4 144.1

400 83.1 87.0 88.2 87.0 89.6 90.4 96.1 94.7 96.4 103.0 113.3 113.2 146.0

500 85.0 87.2 88.0 88.3 89.6 91.3 92.9 94.8 97.3 103.8 109.7 114.4 114.0 147.0

630 86.0 89.3 90.8 90.4 91.7 92.3 93.4 95.9 97.6 104.9 110.5 115.2 114.9 147.8

800 89.2 89.9 92.2 93.3 93.7 94.3 98.0 99.2 105.5 110.9 114.8 115.0 147.9

1000 94.3 96.1 97.1 95.4 95.7 94.8 95.5 98.1 100.1 105.2 109.5 114.2 114.1 147.3

1250 91.3 94.8 95.1 96.4 97.9 99.3 99.7 98.9 100.3 105.1 108.3 112.7 113.7 146.7

1600 97.1 96.8 96.2 95.5 95.8 96.4 97.8 99.6 101.4 104.3 107.4 110.8 113.3 145.8

2000 102.0 99.0 97.0 99.4 99.8 95.8 96.4 99.5 101.1 104.6 109.5 111.2 145.0

2500 102.6 102.3 102.9 100.7 99.3 97.4 97.1 99.4 100.3 105.1 104.6 107.4 108.7 144.8

3150 100.6 102.5 102.2 101.5 101.3 100.7 98.8 99.5 101.1 104.2 104.4 106.1 107.1 144.6

4000 98.6 99.8 100.5 99.5 99.7 99.9 99.8 99.8 100.3 102.7 102.7 103.5 143.3

5000 98.6 99.8 100.5 99.5 99.7 99.9 99.8 99.8 100.3 102.7 102.7 103.5 143.3

6300 98.0 99.5 99.9 99.8 99.8 99.8 98.5 98.5 100.5 101.2 101.6 101.9 142.8

8000 97.7 100.0 100.3 99.0 98.7 98.5 98.0 99.6 100.5 100.6 100.7 142.7

10000 97.2 100.0 101.0 99.7 100.0 99.0 99.4 100.4 100.8 100.8 100.8 143.8

12500 96.5 96.2 101.2 100.7 101.5 101.2 99.1 99.7 99.8 99.8 99.8 144.3

16000 94.2 97.1 98.6 98.1 100.2 99.9 99.8 98.6 97.5 95.6 97.0 98.5 97.3 144.2

20000 92.2 94.4 96.5 96.3 98.6 98.8 97.9 96.3 95.4 93.1 96.0 96.1 144.1

25000 89.3 92.0 94.7 94.3 98.2 98.9 96.9 95.7 95.0 92.3 92.7 93.9 145.2

31500 83.3 87.4 89.5 89.0 92.2 93.8 92.3 91.5 90.7 88.4 89.1 89.7 143.7

40000 80.4 85.2 88.0 87.3 90.4 91.0 90.1 89.1 89.0 86.8 87.7 87.6 145.6

50000 78.4 82.7 85.4 84.9 88.1 87.6 86.2 86.8 84.6 84.8 84.5 81.4 147.6

63000 74.4 79.1 82.2 81.7 85.2 86.1 83.6 84.1 81.7 82.4 82.1 77.2 149.9

80000 68.6 74.5 78.6 77.6 79.7 81.8 78.4 77.9 79.8 77.3 77.7 76.5 152.0

GASPL 110.0 111.1 112.0 111.0 111.4 111.3 111.2 112.0 112.7 116.1 119.5 123.6 124.1 160.4

PNL 123.1 124.3 124.5 123.7 123.3 123.2 124.1 125.2 128.4 130.1 133.0 134.1

DBA 190.4 195.9 199.7 198.8 201.3 203.0 200.0 199.7 201.0 198.6 199.0 198.1 193.6

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 40.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADM141 TEST DATE = 06-25-82 LOCAL AREA = C41 ANECH CH CNF10 = 6 MODEL = AX FLTVEL = 0. FPS

IAPLHA = 5859 DEQ WIND VEL = NO MPH PWL AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.45 RELHUM = 47.2 PCT

WIND DIR = 5859 DEQ WIND VEL = NO MPH EXT DIST = 40.0 FT EXT CNF10 = ARC MIKE HT = 0. FPS

FNINI = 19.9 SO IN FPS AE8 = 1738.0 FPS AE8 = 19.9 SO IN FPS AE8 = 19.9 SO IN

FNRAMB = 19.9 SO IN FPS AE8 = 1738.0 FPS AE8 = 19.9 SO IN FPS AE8 = 19.9 SO IN

RUNPT = 82F-ZER-1619 TAPE = X1619F TEST PT NO = 1619 NC = AE048 CORR FAN SPEED = RPM

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DATAPROC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0603 X06031

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREQ

50 64.7 69.2 71.1 72.1 74.6 75.3 82.3 79.8 83.1 90.3 92.9 92.4 87.5 167.7

63 65.7 69.8 71.9 73.1 74.9 76.9 77.6 80.4 84.1 91.9 94.7 92.9 87.2 168.7

80 66.5 70.6 73.2 74.4 76.4 77.9 79.2 81.9 84.7 93.6 95.7 94.2 88.9 170.0

100 70.5 72.6 75.2 76.3 77.5 79.3 80.1 82.1 84.6 94.7 96.8 94.5 88.7 170.8

125 75.8 78.4 78.8 78.3 79.3 80.3 81.4 82.1 84.6 94.7 96.8 94.5 88.7 170.8

150 73.8 81.2 82.1 82.2 82.9 83.2 84.2 84.9 87.6 92.8 96.6 93.7 87.8 170.7

200 73.4 75.8 79.3 79.9 82.1 82.9 84.1 86.2 88.1 91.2 95.7 93.0 86.7 170.2

250 73.3 76.4 78.3 78.4 80.0 81.2 82.8 85.4 87.8 90.9 93.7 91.2 84.7 169.0

315 72.4 76.4 78.0 78.8 80.6 81.4 82.9 85.8 87.4 90.5 91.9 88.1 80.8 167.8

400 72.2 74.9 76.7 77.3 79.4 81.4 83.3 85.3 87.1 88.9 91.0 86.1 78.5 167.1

500 69.4 72.7 75.5 76.3 78.2 79.8 81.3 83.3 85.1 86.7 87.7 83.6 75.4 165.3

630 70.2 74.3 75.5 76.2 77.9 79.8 81.5 84.3 85.6 86.3 86.6 82.0 73.2 165.1

800 70.8 74.1 75.9 75.8 78.0 78.7 80.5 83.9 84.7 84.4 84.2 79.9 70.9 164.3

1000 70.1 75.3 77.1 76.3 77.1 79.1 80.3 83.6 83.4 83.4 84.2 79.9 70.9 164.3

1250 69.6 75.1 79.3 79.8 79.7 79.9 80.4 82.8 83.1 83.3 80.8 75.8 65.7 164.4

1600 68.0 74.0 77.9 78.8 80.9 80.6 79.0 81.0 81.2 81.1 78.0 73.2 62.3 164.2

2000 64.2 70.6 74.3 75.9 79.0 79.5 78.3 78.7 77.3 75.3 75.3 69.5 57.5 163.5

2500 60.7 66.7 71.2 73.4 76.0 77.6 77.1 75.9 75.3 73.1 72.4 64.7 50.5 163.3

3150 54.0 62.0 67.8 69.4 73.2 75.1 74.5 72.8 72.0 69.6 66.7 59.2 39.3 164.2

4000 41.7 52.3 58.4 61.1 65.6 67.6 64.8 64.1 61.2 56.8 45.2 18.4 162.8

5000 29.4 42.5 50.4 53.7 58.6 60.7 59.0 57.7 56.2 52.3 45.9 28.9 165.0

6300 8.3 25.5 36.0 40.3 46.2 48.4 45.9 44.0 41.6 36.9 27.1 3.5 167.4

8000 11.4 17.8 24.9 27.4 24.0 22.5 18.4 10.9 170.8

10000 170.8

12500 173.5

16000 173.5

20000 173.5

25000 173.5

31500 173.5

40000 173.5

50000 173.5

63000 173.5

80000 173.5

OASPL 83.5 87.7 89.7 90.2 91.8 92.7 94.1 96.2 98.1 102.7 105.2 102.9 96.9 182.0

PNL 88.8 94.1 97.4 98.3 100.5 101.5 101.7 102.8 103.7 105.9 107.6 104.2 96.9

PMLT 89.4 94.8 97.9 98.8 100.5 101.5 101.7 102.8 103.7 105.9 107.6 105.2 98.0

DBA 78.5 83.2 86.2 86.9 88.6 89.4 89.9 92.0 92.9 93.9 94.9 91.1 83.8

MODEL AREA = 128.3 SQ CM (19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514

VEHICL = ADH145 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLVEL = 0. FPS
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMR F = 79.00 PAMB HG = 29.50 RELHUM = 47.1 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBRF =

FNINI = LBS XNL RPM XNHR XNHR = RPM V8 = 2331.0 FPS AE8 = 19.9 SQ IN
FNRRMB = LBS XNLR RPM V18 = FPS AE18 = 0. SQ IN

RUNPT = 82F-ZER-0603 TAPE = X06031 TEST PT NO = 0603 NC = AE048 CORR FAN SPEED = RPM

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DATPROC - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0604 X0604C
BACKGROUND 82F-400-0600 X06000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 PWL 84.5 86.1 83.6 85.4 83.7 81.1 85.7 84.6 82.1 81.2 89.3 89.7 93.4 128.0

63 84.0 93.0 93.3 94.8 91.1 86.8 97.1 92.3 87.3 86.6 90.2 89.7 94.8 134.4

80 85.7 91.2 87.5 88.5 88.6 89.7 90.1 90.0 90.0 87.3 92.2 95.1 96.5 132.6

100 86.0 91.7 88.0 89.1 90.6 90.3 91.4 92.3 90.5 89.3 95.2 99.7 101.1 135.1

125 83.4 86.6 88.4 88.9 90.5 90.7 92.0 91.9 90.2 90.7 99.1 103.0 104.5 137.2

160 81.3 80.5 86.3 84.8 86.2 85.8 93.4 87.8 89.3 91.9 100.5 103.7 106.1 137.9

200 82.1 83.1 85.1 84.7 85.3 86.9 91.3 90.2 93.1 92.2 100.6 105.5 107.7 139.1

250 80.8 84.3 85.3 85.6 86.0 87.3 89.7 92.1 93.3 97.7 106.3 109.5 109.4 142.4

315 80.8 84.3 85.3 85.9 87.5 88.8 91.2 91.4 95.3 99.7 107.5 110.7 110.1 143.6

400 82.4 84.9 85.9 85.5 88.1 88.4 95.6 96.6 92.7 96.9 102.8 110.1 112.3 145.1

500 83.0 85.2 86.0 87.0 88.6 89.5 92.1 94.3 98.0 104.3 112.7 112.6 107.6 146.2

630 83.3 86.1 88.4 89.7 91.3 93.2 95.9 98.3 106.4 113.5 112.5 104.6 146.6

800 86.2 88.7 89.0 91.1 92.5 94.1 98.0 101.5 107.0 115.2 110.8 102.0 147.3

1000 89.8 89.3 90.1 91.7 93.3 95.6 98.1 101.2 103.3 104.3 107.9 100.9 94.4 142.7

1250 88.8 89.3 92.9 93.4 94.6 96.9 99.4 102.6 105.4 113.8 107.4 98.0 146.0

1600 86.6 90.3 91.9 92.2 94.3 95.9 98.5 100.6 103.4 104.8 112.6 105.6 97.3 145.2

2000 89.0 90.2 91.6 91.7 93.3 95.2 97.9 101.0 103.6 103.9 109.4 103.3 94.4 143.3

2500 89.3 90.8 92.2 92.4 93.8 95.6 98.1 101.2 103.3 104.3 107.9 100.9 94.4 142.7

3150 89.9 91.2 92.2 91.8 94.1 96.4 98.8 101.8 103.6 103.7 106.4 99.3 93.8 142.3

4000 89.5 89.9 91.8 92.3 93.2 95.9 98.3 101.3 102.6 102.4 104.0 97.6 91.8 141.4

5000 91.1 92.4 92.7 92.2 94.2 95.9 98.3 101.3 102.6 102.4 104.0 97.6 91.8 141.4

6300 93.3 94.6 94.1 93.1 94.1 95.5 98.8 101.2 103.2 103.2 104.6 97.2 91.7 141.4

8000 95.5 97.8 97.9 95.8 94.8 96.6 98.8 101.6 102.6 102.6 104.0 97.9 91.3 142.1

10000 96.8 100.0 101.1 99.3 98.0 100.0 102.5 103.9 102.6 103.0 103.2 97.9 93.2 144.8

12500 95.6 97.6 100.9 100.1 99.9 99.2 101.6 103.2 101.2 102.6 98.9 93.4 144.9

16000 92.9 96.4 98.1 97.4 99.4 99.4 100.1 101.5 99.6 102.0 97.5 92.5 144.9

20000 91.4 94.7 96.4 95.9 97.9 98.6 99.5 98.9 100.0 97.0 100.4 96.3 91.4 145.4

25000 88.9 92.7 95.4 95.0 97.3 98.1 99.3 98.4 99.7 95.8 97.7 95.8 89.5 147.0

31500 82.9 88.2 90.5 89.7 92.7 94.5 94.3 93.9 95.0 91.7 93.6 90.8 84.3 145.6

40000 79.6 84.7 87.7 86.7 90.1 91.9 92.3 92.3 92.8 88.5 91.9 87.5 80.5 147.2

50000 75.9 80.3 83.9 82.9 86.4 88.6 89.1 87.9 90.0 84.7 88.0 83.2 76.1 148.0

63000 69.1 74.8 78.6 78.4 81.4 82.8 82.0 83.5 85.0 80.3 82.5 77.7 69.2 148.0

80000 58.3 67.6 72.2 71.3 74.1 75.7 74.3 76.0 77.4 73.8 75.0 68.5 58.0 147.5

DBA 102.4 104.3 105.5 104.7 105.4 106.9 109.4 112.2 114.3 115.8 122.4 118.4 112.3

PWL 115.4 117.3 118.4 117.8 118.7 120.4 123.0 125.4 127.4 128.2 133.1 129.1 125.0

QASPL 104.6 107.3 108.8 108.1 108.8 109.6 111.4 113.3 115.2 116.5 123.1 120.9 117.6 159.7

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICLE = ADH155 TEST DATE = 06-25-82 LOCAL = C41 ANECH CH CONFIG = 6 MODEL = AX
TAMBA HG = 29.40 PAMB HG = 29.40 RELHUM = 41.5 PCT FLTVEL = 400. FPS
WIND DIR = S859 LEGA = NO EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR
MIND DIR = S859 DEG WIND VEL = MPH PWL AREA = FULL SPHERE TAMB F = 80.00

FNINI = LBS XNL RPM = X0604C TEST PT NO = 0604 NC = AE048 CORR FAN SPEED = RPM
FNAMB = LBS XNLR RPM = X0604C TEST PT NO = 0604 NC = AE048 CORR FAN SPEED = RPM
V8 = 2333.0 FPS AE18 = 19.9 SQ IN V18 = 2333.0 FPS AE18 = 19.9 SQ IN

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PWL

140. 150. 160.

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DATPROC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0604 X06041

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 50 | 67.5 | 71.3 | 71.9 | 71.6 | 72.7 | 71.6 | 71.6 | 77.0 | 72.4 | 77.5 | 82.0 | 88.5 | 87.4 | 82.3 |
| 63 | 69.0 | 71.8 | 72.5 | 71.2 | 73.3 | 72.7 | 74.1 | 74.7 | 79.7 | 85.3 | 91.0 | 89.6 | 82.9 | 164.6 |
| 80 | 69.6 | 72.1 | 72.6 | 72.8 | 74.4 | 74.6 | 75.3 | 76.6 | 82.0 | 86.3 | 93.4 | 89.6 | 83.4 | 166.0 |
| 100 | 69.8 | 72.9 | 74.6 | 74.1 | 75.8 | 76.3 | 76.7 | 77.7 | 79.4 | 83.3 | 85.0 | 92.5 | 87.3 | 166.3 |
| 125 | 72.6 | 73.5 | 75.2 | 74.8 | 76.3 | 76.7 | 77.7 | 79.4 | 83.3 | 85.0 | 92.5 | 87.3 | 81.7 | 165.1 |
| 160 | 74.5 | 74.9 | 75.8 | 75.4 | 78.0 | 78.0 | 78.9 | 78.0 | 79.8 | 84.3 | 84.4 | 85.5 | 81.0 | 164.5 |
| 200 | 73.4 | 79.1 | 79.0 | 78.1 | 79.4 | 79.4 | 80.6 | 81.1 | 84.9 | 84.0 | 88.6 | 83.2 | 79.9 | 163.4 |
| 250 | 75.3 | 76.5 | 78.1 | 77.8 | 78.1 | 78.7 | 80.2 | 81.8 | 84.4 | 84.2 | 86.8 | 80.8 | 77.8 | 162.6 |
| 315 | 74.3 | 76.1 | 77.5 | 77.2 | 78.6 | 79.2 | 80.3 | 81.8 | 84.9 | 83.7 | 85.5 | 79.3 | 77.0 | 162.4 |
| 400 | 74.0 | 76.4 | 77.8 | 77.7 | 78.9 | 80.1 | 81.1 | 82.5 | 84.4 | 82.4 | 83.7 | 78.1 | 75.0 | 162.2 |
| 500 | 74.1 | 76.4 | 77.7 | 77.6 | 78.1 | 79.9 | 81.3 | 83.0 | 84.1 | 82.4 | 82.6 | 76.3 | 73.4 | 162.2 |
| 630 | 73.2 | 74.8 | 77.1 | 77.5 | 79.2 | 80.1 | 81.3 | 82.5 | 85.1 | 80.9 | 81.5 | 76.3 | 72.7 | 162.5 |
| 800 | 74.2 | 76.9 | 77.8 | 77.3 | 78.7 | 79.5 | 81.8 | 82.6 | 84.6 | 80.5 | 80.7 | 74.7 | 71.6 | 162.8 |
| 1000 | 74.3 | 77.6 | 78.2 | 77.4 | 78.9 | 80.4 | 81.7 | 83.8 | 85.9 | 82.8 | 81.6 | 76.2 | 72.4 | 164.5 |
| 1250 | 74.5 | 79.2 | 80.5 | 79.1 | 83.5 | 81.7 | 82.9 | 83.8 | 85.6 | 81.6 | 81.0 | 76.4 | 71.0 | 165.8 |
| 1600 | 75.6 | 81.4 | 85.3 | 84.3 | 84.4 | 83.3 | 81.8 | 82.9 | 84.0 | 79.9 | 79.8 | 73.8 | 67.8 | 167.4 |
| 2000 | 74.8 | 79.1 | 83.6 | 83.2 | 83.5 | 82.7 | 81.7 | 81.2 | 82.1 | 76.5 | 76.9 | 70.5 | 63.2 | 167.6 |
| 2500 | 69.8 | 76.3 | 79.5 | 79.3 | 81.4 | 81.4 | 79.3 | 76.6 | 76.4 | 70.0 | 67.4 | 59.8 | 45.3 | 168.5 |
| 3150 | 64.4 | 71.6 | 75.3 | 75.7 | 79.4 | 79.5 | 73.1 | 71.8 | 69.6 | 71.3 | 63.2 | 49.5 | 29.4 | 169.1 |
| 4000 | 54.9 | 64.0 | 69.8 | 70.7 | 72.4 | 73.1 | 71.8 | 69.6 | 71.3 | 63.2 | 49.5 | 29.4 | 169.1 | |
| 5000 | 41.1 | 53.4 | 59.4 | 60.3 | 64.8 | 65.6 | 64.9 | 62.5 | 62.6 | 52.1 | 47.8 | 32.1 | 3.8 | 170.0 |
| 6300 | 19.5 | 35.3 | 44.2 | 46.2 | 51.0 | 52.4 | 51.5 | 47.3 | 45.8 | 33.6 | 24.7 | 2.9 | | 170.4 |
| 8000 | | | | | | | | | | | | | | 169.6 |
| 10000 | | | | | | | | | | | | | | 168.8 |

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MODEL AREA = 128.3 SQ CM (19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH155 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6

IAPLHA = S859 PWL AREA = FULL SPHERE TAMB F = 80.00 MIKE HG = 29.4Q RELHUM = 41.5 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL

FNIN1 = LBS XNL RPM XNHR = V8 RPM V8 = 2333.0 FPS AER8 = 19.9 SQ IN

FNRAMB = LBS XNLR = RPM XNHR = V8 RPM V8 = 2333.0 FPS AER8 = 19.9 SQ IN

RUN = 82F-400-0604 TAPE = X06041 TEST PT NO = 060 NC = AE048 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0605 BACKGROUND 82F-400-0600
ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

| | | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| 50 | 80.8 | 82.8 | 83.1 | 83.9 | 83.0 | 80.6 | 84.7 | 86.1 | 85.3 | 85.7 | 93.5 | 89.2 | 89.1 | 128.3 | PWL |
| 63 | 84.2 | 91.7 | 92.5 | 92.3 | 91.9 | 88.3 | 94.9 | 94.6 | 91.3 | 93.1 | 100.0 | 92.4 | 93.3 | 135.6 | |
| 80 | 85.9 | 91.2 | 88.0 | 88.0 | 88.9 | 90.2 | 90.6 | 91.0 | 91.5 | 89.6 | 93.2 | 96.4 | 97.5 | 133.4 | |
| 100 | 87.0 | 93.7 | 89.8 | 90.6 | 91.9 | 91.8 | 92.4 | 94.1 | 92.8 | 94.8 | 98.0 | 100.9 | 102.3 | 136.9 | |
| 125 | 83.6 | 88.6 | 90.4 | 90.9 | 92.5 | 92.9 | 94.3 | 94.4 | 93.7 | 96.2 | 102.4 | 105.0 | 106.0 | 139.5 | |
| 150 | 84.0 | 83.8 | 88.3 | 88.8 | 88.7 | 88.8 | 96.2 | 91.3 | 92.6 | 97.1 | 103.3 | 106.2 | 108.4 | 140.5 | |
| 160 | 84.0 | 83.8 | 88.3 | 88.8 | 88.7 | 88.8 | 96.2 | 91.3 | 92.6 | 97.1 | 103.3 | 106.2 | 108.4 | 140.5 | |
| 200 | 85.8 | 85.1 | 87.1 | 90.0 | 91.6 | 94.0 | 97.1 | 97.4 | 97.1 | 98.7 | 104.3 | 108.8 | 110.4 | 142.4 | |
| 250 | 86.5 | 86.8 | 89.6 | 90.1 | 90.2 | 91.3 | 93.7 | 97.1 | 97.8 | 98.7 | 104.3 | 108.8 | 110.4 | 142.4 | |
| 315 | 84.3 | 88.6 | 89.6 | 89.4 | 92.2 | 94.3 | 96.2 | 96.9 | 100.3 | 107.4 | 111.5 | 115.2 | 114.6 | 148.2 | |
| 400 | 86.4 | 89.7 | 90.2 | 89.7 | 92.3 | 92.9 | 100.6 | 97.5 | 101.4 | 110.3 | 113.9 | 115.6 | 114.5 | 149.4 | |
| 500 | 87.0 | 89.5 | 91.0 | 91.3 | 92.4 | 94.5 | 95.6 | 98.8 | 103.0 | 111.8 | 117.3 | 116.6 | 114.8 | 150.7 | |
| 630 | 87.8 | 90.8 | 92.6 | 93.9 | 95.3 | 97.2 | 100.4 | 104.1 | 113.9 | 117.3 | 117.2 | 116.1 | 115.1 | 151.9 | |
| 800 | 91.9 | 92.7 | 94.2 | 94.0 | 95.6 | 96.5 | 98.3 | 102.2 | 106.2 | 115.0 | 119.2 | 117.8 | 116.0 | 153.1 | |
| 1000 | 96.5 | 96.8 | 97.3 | 96.6 | 98.1 | 100.2 | 102.9 | 106.8 | 114.2 | 118.8 | 118.5 | 115.9 | 115.0 | 153.0 | |
| 1250 | 95.3 | 101.1 | 100.6 | 100.1 | 100.4 | 100.8 | 101.4 | 103.9 | 107.8 | 113.6 | 118.5 | 116.5 | 115.3 | 153.1 | |
| 1500 | 95.1 | 96.8 | 98.7 | 98.0 | 100.1 | 100.9 | 102.5 | 104.6 | 108.2 | 112.3 | 118.1 | 117.6 | 115.3 | 152.4 | |
| 2000 | 95.0 | 96.7 | 97.9 | 97.0 | 98.1 | 99.7 | 101.4 | 104.7 | 107.6 | 111.9 | 116.9 | 115.7 | 113.5 | 151.2 | |
| 2500 | 95.3 | 97.3 | 98.2 | 97.2 | 98.8 | 99.6 | 101.6 | 104.9 | 107.6 | 112.1 | 115.4 | 114.4 | 112.6 | 150.2 | |
| 3150 | 95.4 | 97.0 | 96.7 | 96.8 | 98.3 | 100.4 | 102.3 | 104.8 | 107.6 | 110.4 | 114.4 | 112.6 | 110.3 | 149.3 | |
| 4000 | 93.5 | 95.4 | 96.8 | 96.3 | 97.1 | 98.6 | 101.2 | 103.3 | 106.7 | 109.1 | 112.1 | 110.7 | 108.2 | 147.8 | |
| 5000 | 95.4 | 97.3 | 97.0 | 96.2 | 97.7 | 98.9 | 101.5 | 104.8 | 106.8 | 109.2 | 111.5 | 110.0 | 107.3 | 147.6 | |
| 6300 | 95.2 | 97.0 | 97.9 | 96.6 | 98.0 | 98.7 | 100.8 | 104.2 | 106.2 | 107.8 | 109.1 | 108.7 | 105.4 | 146.6 | |
| 8000 | 93.9 | 97.8 | 98.6 | 97.2 | 97.5 | 98.8 | 101.0 | 103.6 | 106.6 | 107.6 | 106.6 | 104.0 | 145.9 | | |
| 10000 | 93.2 | 97.4 | 99.5 | 99.0 | 100.0 | 100.7 | 102.7 | 104.8 | 106.4 | 106.6 | 106.1 | 103.1 | 146.2 | | |
| 12500 | 93.5 | 96.2 | 98.7 | 98.7 | 99.8 | 100.5 | 99.6 | 102.0 | 105.0 | 104.7 | 104.5 | 102.8 | 145.9 | | |
| 15000 | 91.2 | 94.9 | 95.8 | 96.1 | 98.7 | 99.2 | 98.8 | 100.1 | 101.0 | 102.3 | 103.0 | 102.5 | 100.5 | 145.4 | |
| 20000 | 88.9 | 91.7 | 94.0 | 94.0 | 96.6 | 97.6 | 97.7 | 97.3 | 98.2 | 99.3 | 101.1 | 100.3 | 98.4 | 144.9 | |
| 25000 | 85.8 | 90.0 | 92.0 | 92.3 | 94.9 | 96.2 | 96.1 | 96.2 | 97.5 | 98.3 | 98.2 | 98.4 | 94.6 | 145.7 | |
| 31500 | 79.8 | 85.2 | 86.7 | 87.3 | 90.5 | 92.6 | 91.8 | 91.2 | 93.0 | 94.7 | 95.4 | 94.2 | 89.4 | 144.7 | |
| 40000 | 77.2 | 82.2 | 85.2 | 84.5 | 88.4 | 89.5 | 89.1 | 89.6 | 91.0 | 93.3 | 94.5 | 91.8 | 87.2 | 146.7 | |
| 50000 | 74.4 | 79.0 | 82.1 | 82.4 | 86.1 | 87.4 | 86.6 | 86.9 | 89.0 | 92.4 | 92.0 | 90.2 | 84.1 | 149.1 | |
| 63000 | 70.4 | 75.4 | 78.7 | 79.2 | 82.2 | 84.1 | 82.3 | 84.6 | 86.9 | 89.9 | 87.6 | 79.5 | 73.3 | 151.9 | |
| 80000 | 63.9 | 70.8 | 74.6 | 74.6 | 77.2 | 79.8 | 77.7 | 79.1 | 82.8 | 86.5 | 88.9 | 82.8 | 73.3 | 155.1 | |
| CASPL | 106.6 | 109.4 | 110.2 | 109.7 | 111.0 | 112.0 | 113.6 | 116.0 | 118.6 | 123.8 | 127.9 | 127.7 | 126.0 | 164.2 | |
| PWL | 119.1 | 121.3 | 121.9 | 121.4 | 122.7 | 124.1 | 126.2 | 128.9 | 131.3 | 135.4 | 139.1 | 138.5 | 136.4 | | |
| DBA | 106.1 | 108.6 | 109.2 | 108.6 | 109.7 | 110.8 | 112.7 | 115.6 | 118.4 | 123.4 | 127.6 | 127.0 | 124.9 | | |

NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514

VEHICL = ADH146 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6
IAPLHA = SB59 DEG WIND VEL = NO PWL AREA = FULL SPHERE TAMB F = 79.00 MIKE HT = 29.45
WIND DIR = SB59 DEG WIND VEL = NO PWL AREA = FULL SPHERE TAMB F = 79.00 MIKE HT = 29.45
FNNI = LBS XNL RPM XNHR = RPM V8 = 2356.0 FPS AE8 = 19.9 SQ IN
FNRAMB = LBS XNL RPM XNHR = RPM V8 = 2356.0 FPS AE8 = 19.9 SQ IN
RUNPT = 82F-ZER-0605 TAPE = X0605C TEST PT NO = 0605 NC = AE048 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

507

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0605 X0605F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREQ 50 60 80 100 125 150 160 200 250 315 400 500 630 800 1000 1250 1500 2000 2500 3150 4000 5000 6300 8000 10000 12500 15000 20000 25000 31500 40000 50000 63000 80000

| | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| DBA | 165.9 | 192.2 | 195.8 | 196.0 | 198.7 | 201.1 | 199.1 | 200.7 | 203.9 | 207.5 | 209.6 | 204.1 | 195.3 |
| PNLT | 119.1 | 122.8 | 121.9 | 121.4 | 122.7 | 124.1 | 127.0 | 128.9 | 131.3 | 135.4 | 139.1 | 138.5 | 136.4 |
| PNL | 119.1 | 121.3 | 121.9 | 121.4 | 122.7 | 124.1 | 126.2 | 128.9 | 131.3 | 135.4 | 139.1 | 138.5 | 136.4 |
| GASPL | 106.6 | 109.4 | 110.2 | 109.7 | 111.0 | 112.0 | 113.6 | 116.0 | 118.6 | 123.8 | 127.9 | 127.7 | 126.0 |
| 60000 | 63.9 | 70.8 | 74.6 | 74.6 | 77.2 | 79.6 | 77.7 | 79.1 | 82.8 | 86.5 | 88.9 | 82.8 | 73.3 |
| 63000 | 70.4 | 75.4 | 78.7 | 79.2 | 82.2 | 84.1 | 84.6 | 86.9 | 89.9 | 92.4 | 92.0 | 84.1 | 79.1 |
| 50000 | 74.4 | 79.0 | 82.1 | 82.4 | 86.1 | 87.4 | 86.6 | 86.9 | 89.0 | 92.4 | 92.0 | 84.1 | 79.1 |
| 40000 | 77.2 | 82.2 | 85.2 | 84.5 | 88.4 | 89.5 | 89.1 | 89.6 | 91.0 | 93.3 | 94.5 | 91.8 | 87.2 |
| 31500 | 79.8 | 85.2 | 86.7 | 87.3 | 90.5 | 92.6 | 91.8 | 91.2 | 93.0 | 94.7 | 95.4 | 89.4 | 144.7 |
| 25000 | 85.8 | 90.0 | 92.0 | 92.3 | 94.9 | 96.2 | 96.1 | 96.2 | 97.5 | 98.3 | 98.2 | 94.6 | 145.7 |
| 20000 | 88.9 | 91.7 | 94.0 | 94.0 | 96.6 | 97.6 | 97.7 | 97.3 | 98.2 | 99.3 | 101.1 | 100.3 | 98.4 |
| 16000 | 91.2 | 94.9 | 95.8 | 96.1 | 98.7 | 99.2 | 98.8 | 100.1 | 101.0 | 102.3 | 103.0 | 102.5 | 100.5 |
| 12500 | 93.5 | 96.2 | 98.7 | 98.7 | 99.8 | 100.5 | 99.6 | 102.0 | 102.8 | 104.7 | 104.5 | 104.8 | 145.9 |
| 10000 | 93.2 | 97.4 | 99.5 | 99.0 | 99.5 | 100.0 | 100.7 | 102.7 | 104.8 | 106.4 | 106.6 | 106.1 | 146.2 |
| 8000 | 93.9 | 97.8 | 98.6 | 97.2 | 97.5 | 98.8 | 101.0 | 103.6 | 105.0 | 106.6 | 107.6 | 106.6 | 145.9 |
| 6300 | 95.2 | 97.0 | 97.9 | 96.6 | 98.0 | 98.7 | 100.8 | 104.2 | 106.2 | 107.8 | 109.1 | 108.7 | 146.6 |
| 5000 | 95.4 | 97.3 | 97.0 | 96.2 | 97.7 | 98.9 | 101.5 | 104.8 | 106.8 | 109.2 | 111.5 | 110.0 | 147.6 |
| 4000 | 93.5 | 95.4 | 96.8 | 96.3 | 97.1 | 98.6 | 101.2 | 105.3 | 106.7 | 109.1 | 112.1 | 110.7 | 147.8 |
| 3150 | 95.4 | 97.0 | 96.7 | 96.8 | 98.3 | 100.4 | 102.3 | 104.8 | 107.6 | 110.4 | 114.4 | 112.6 | 149.3 |
| 2500 | 95.3 | 97.3 | 98.2 | 97.2 | 98.8 | 99.6 | 101.6 | 104.9 | 107.6 | 112.1 | 114.2 | 112.2 | 150.2 |
| 2000 | 95.0 | 96.7 | 97.9 | 97.0 | 98.1 | 99.7 | 101.4 | 104.7 | 107.6 | 111.9 | 116.9 | 115.7 | 151.2 |
| 1600 | 95.1 | 96.8 | 98.7 | 98.0 | 100.1 | 100.9 | 102.5 | 104.6 | 106.2 | 112.3 | 118.1 | 117.6 | 152.4 |
| 1250 | 95.3 | 101.1 | 100.6 | 100.1 | 100.4 | 100.8 | 101.4 | 103.9 | 107.8 | 113.6 | 118.5 | 118.4 | 153.1 |
| 1000 | 96.5 | 96.8 | 97.3 | 96.6 | 98.1 | 100.2 | 102.8 | 106.8 | 107.8 | 114.2 | 118.8 | 118.9 | 153.0 |
| 800 | 91.9 | 92.7 | 94.2 | 94.0 | 95.6 | 96.5 | 98.3 | 102.2 | 106.2 | 115.0 | 119.2 | 117.8 | 153.1 |
| 630 | 87.8 | 90.8 | 92.6 | 92.6 | 93.9 | 95.3 | 97.2 | 100.4 | 104.1 | 113.9 | 117.3 | 117.2 | 151.9 |
| 500 | 87.0 | 89.5 | 91.0 | 92.4 | 94.5 | 95.6 | 98.8 | 103.0 | 111.8 | 116.2 | 116.8 | 114.8 | 150.7 |
| 400 | 86.4 | 89.7 | 90.2 | 89.7 | 92.3 | 92.9 | 100.6 | 97.5 | 101.4 | 110.3 | 113.9 | 115.6 | 149.4 |
| 315 | 84.3 | 88.6 | 89.6 | 89.4 | 92.2 | 94.3 | 96.2 | 96.9 | 100.3 | 107.4 | 111.5 | 114.6 | 148.2 |
| 250 | 86.5 | 88.8 | 89.6 | 90.1 | 90.2 | 91.3 | 93.7 | 97.1 | 97.8 | 104.9 | 110.3 | 113.1 | 146.4 |
| 200 | 85.8 | 85.1 | 87.1 | 87.7 | 90.0 | 91.6 | 94.0 | 94.1 | 97.1 | 98.7 | 104.3 | 108.8 | 142.4 |
| 160 | 84.0 | 83.8 | 86.8 | 86.7 | 88.8 | 88.8 | 86.2 | 91.3 | 92.6 | 97.1 | 103.3 | 106.2 | 140.5 |
| 125 | 83.6 | 88.6 | 90.4 | 90.9 | 92.5 | 92.9 | 94.3 | 94.4 | 93.7 | 96.2 | 102.4 | 105.0 | 139.5 |
| 100 | 87.0 | 93.7 | 89.8 | 90.6 | 91.8 | 91.8 | 92.4 | 94.1 | 92.8 | 94.8 | 100.9 | 102.3 | 136.9 |
| 80 | 85.9 | 91.2 | 88.0 | 88.0 | 88.9 | 90.2 | 90.6 | 91.0 | 91.5 | 89.6 | 93.2 | 96.4 | 133.4 |
| 63 | 84.2 | 91.7 | 92.5 | 92.3 | 91.9 | 88.3 | 94.9 | 94.6 | 91.3 | 93.1 | 100.0 | 92.4 | 135.6 |
| 50 | 80.8 | 82.8 | 83.1 | 83.9 | 83.0 | 80.6 | 84.7 | 86.1 | 85.3 | 85.7 | 93.5 | 89.2 | 128.3 |
| PWL | | | | | | | | | | | | | |

ORIGINAL PAGE 13
OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES
NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514
VEHICLE = ADH146 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVL = 0. FPS
LAPSE = SB59 LEGA = NO PWL AREA = FULL SPHERE EXT DIST = 40.0 FT EXT CONFIG = ARC TAMB F = 79.00 PAMB HG = 29.45 RELHUM = 47.2 PCT
WIND DIR = SB59 DEQ WIND VEL = MPH
FNINI = LBS XNL RPM XNH RPM XNHR RPM V6 = 2356.0 FPS AE8 = 19.9 SQ IN
FNRAMB = LBS XNLR RPM V8 = 2356.0 FPS AE18 = 0. SQ IN
INPT = ER-0605 TAPE = X0605F TEST PT NO = 0605 NC = AE048 CORR FAN SPEED = RPM

DATPROC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0605 X06051

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.
PWL

| | | | | | | | | | | | | | | |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 50 | 65.4 | 70.2 | 71.8 | 72.1 | 75.1 | 75.8 | 83.3 | 79.8 | 83.1 | 90.8 | 92.9 | 92.4 | 88.0 | 167.8 |
| 63 | 66.0 | 70.0 | 72.6 | 73.6 | 75.1 | 77.4 | 78.4 | 81.1 | 84.6 | 92.4 | 95.2 | 93.9 | 89.4 | 170.4 |
| 80 | 66.7 | 71.3 | 74.2 | 74.9 | 76.7 | 78.2 | 79.9 | 82.7 | 85.7 | 94.4 | 96.2 | 93.9 | 89.4 | 170.4 |
| 100 | 70.8 | 73.1 | 75.7 | 76.3 | 78.3 | 79.3 | 81.0 | 84.5 | 87.7 | 95.5 | 98.0 | 94.5 | 89.2 | 171.6 |
| 125 | 75.3 | 77.2 | 78.8 | 79.1 | 80.8 | 82.8 | 85.1 | 88.3 | 94.5 | 97.6 | 99.9 | 98.8 | 88.8 | 171.5 |
| 150 | 73.8 | 81.2 | 81.9 | 82.2 | 82.9 | 83.4 | 83.9 | 85.9 | 89.1 | 93.8 | 97.1 | 94.7 | 89.0 | 171.5 |
| 200 | 73.4 | 76.8 | 79.8 | 79.9 | 82.4 | 83.4 | 84.8 | 86.5 | 89.3 | 92.2 | 96.5 | 93.5 | 87.4 | 170.9 |
| 250 | 73.0 | 76.4 | 78.8 | 78.7 | 80.2 | 82.0 | 83.6 | 86.4 | 88.5 | 91.6 | 94.9 | 91.2 | 85.0 | 169.7 |
| 315 | 72.9 | 76.7 | 78.7 | 78.6 | 80.6 | 81.6 | 83.4 | 86.3 | 88.1 | 91.5 | 92.9 | 89.1 | 81.8 | 168.7 |
| 400 | 72.5 | 75.9 | 77.0 | 77.8 | 79.9 | 82.1 | 83.8 | 85.8 | 87.8 | 89.4 | 91.5 | 86.9 | 80.0 | 167.7 |
| 500 | 70.1 | 74.0 | 76.7 | 77.1 | 78.4 | 80.0 | 82.5 | 86.1 | 86.6 | 87.7 | 88.7 | 84.3 | 76.9 | 166.3 |
| 630 | 71.5 | 75.5 | 76.5 | 76.7 | 78.7 | 80.0 | 82.5 | 85.3 | 86.4 | 87.3 | 87.6 | 83.0 | 74.9 | 166.1 |
| 800 | 70.8 | 74.8 | 77.1 | 76.8 | 79.7 | 81.5 | 84.4 | 85.5 | 85.6 | 84.7 | 80.9 | 71.9 | 165.1 | |
| 1000 | 69.1 | 75.3 | 77.6 | 77.3 | 78.1 | 79.6 | 81.6 | 83.6 | 84.1 | 82.8 | 78.2 | 69.3 | 164.4 | |
| 1250 | 67.9 | 74.6 | 78.3 | 78.8 | 79.9 | 80.6 | 81.2 | 83.6 | 83.6 | 81.3 | 76.8 | 67.0 | 164.7 | |
| 1600 | 67.3 | 72.7 | 77.1 | 78.3 | 79.9 | 80.9 | 79.7 | 81.5 | 81.2 | 81.6 | 78.5 | 73.9 | 164.4 | |
| 2000 | 64.0 | 70.9 | 73.8 | 75.4 | 78.7 | 79.5 | 78.8 | 79.4 | 79.0 | 78.3 | 75.8 | 70.3 | 163.9 | |
| 2500 | 59.9 | 66.4 | 71.2 | 72.7 | 76.0 | 77.3 | 77.1 | 75.9 | 75.3 | 74.1 | 72.1 | 65.2 | 163.4 | |
| 3150 | 53.5 | 62.3 | 67.2 | 69.4 | 73.0 | 74.6 | 74.2 | 73.3 | 72.7 | 70.6 | 65.9 | 58.4 | 163.1 | |
| 4000 | 41.2 | 52.8 | 58.1 | 61.1 | 65.6 | 68.1 | 67.0 | 65.0 | 64.4 | 62.2 | 56.8 | 45.2 | 163.1 | |
| 5000 | 28.9 | 42.3 | 50.4 | 52.9 | 58.6 | 60.2 | 59.3 | 58.0 | 56.2 | 53.3 | 46.1 | 29.2 | 165.2 | |
| 6300 | 8.3 | 24.8 | 35.2 | 40.0 | 46.2 | 48.2 | 46.6 | 44.5 | 42.1 | 38.2 | 25.9 | 3.5 | 170.4 | |
| 8000 | | | | | | | | | | | | | 173.6 | |
| 10000 | | | | | | | | | | | | | | |
| 12500 | | | | | | | | | | | | | | |
| 16000 | | | | | | | | | | | | | | |
| 20000 | | | | | | | | | | | | | | |
| 25000 | | | | | | | | | | | | | | |
| 31500 | | | | | | | | | | | | | | |
| 40000 | | | | | | | | | | | | | | |
| 50000 | | | | | | | | | | | | | | |
| 63000 | | | | | | | | | | | | | | |
| 80000 | | | | | | | | | | | | | | |

ORIGINAL PAGE IS
OF POOR QUALITY

MODEL AREA = 128.3 SQ CM (19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9
NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514

VEHICL = ADH146 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 REGA = NO PWL AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.45 RELHUM = 47.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBR

FNINI = LBS XNL RPM XNH RPM V8 = 2356.0 FPS AEB = 19.9 SQ IN
FNRAMB = LBS XNLR = XNH RPM V18 = 2356.0 FPS AEB = 19.9 SQ IN

RUNPT = 82F-ZER-0605 TAPE = X06051 TEST PT NO = 0605 NC = AEO48 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0606 X0606C
BACKGROUND 82F-400-0600 X06000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 84.5 84.3 86.3 84.5 82.7 79.6 86.7 84.4 81.8 78.9 90.0 98.2 97.9 131.1

63 84.0 90.0 95.8 92.8 89.9 85.5 97.6 90.8 87.3 83.1 91.0 95.2 96.1 134.6

80 86.7 91.7 88.2 88.6 88.9 90.5 90.6 90.3 90.5 88.1 92.7 96.6 98.5 133.4

100 86.2 91.5 87.8 89.3 90.9 90.0 91.4 93.6 91.0 93.4 92.9 100.8 106.0 139.6

125 83.9 86.6 88.9 90.0 91.0 91.4 92.3 93.7 91.9 92.4 100.8 103.9 106.6 138.2

160 82.0 80.5 86.6 86.2 85.9 86.1 93.7 88.1 89.1 89.7 92.4 100.8 103.9 106.6 138.2

200 82.3 82.9 85.4 85.8 86.3 87.4 91.0 90.4 93.4 92.9 100.8 106.0 108.2 139.6

250 81.0 84.3 85.5 86.7 88.1 89.0 92.1 94.1 98.1 98.8 110.7 109.9 143.2

315 81.0 84.3 85.6 86.6 87.7 88.8 91.5 92.9 96.1 100.9 108.3 111.5 111.1 144.4

400 82.9 85.2 85.7 86.9 88.1 88.9 90.5 92.4 94.5 98.0 105.6 113.2 105.6 147.6

500 83.4 85.5 86.8 87.8 88.9 90.5 92.4 94.5 98.0 105.6 113.2 113.1 107.8 146.7

630 83.5 86.5 88.1 89.0 89.9 91.6 93.7 96.1 99.3 107.9 114.5 113.2 105.6 147.6

800 86.2 86.7 89.2 90.3 91.3 93.2 94.6 98.5 101.5 107.8 115.9 111.6 103.0 148.0

1000 90.8 89.3 90.6 91.5 92.5 93.3 96.0 98.9 102.6 107.4 115.5 110.5 100.1 147.6

1250 89.3 93.8 93.8 94.1 94.5 95.1 97.5 99.6 103.1 108.7 114.8 108.5 99.7 146.9

1600 89.4 90.0 92.5 93.8 95.1 96.4 99.0 101.3 103.7 105.5 113.2 105.8 98.1 145.7

2000 89.6 89.7 91.9 93.0 94.1 95.7 98.7 101.3 103.4 105.7 110.4 103.7 97.8 144.1

2500 89.6 90.8 92.4 93.3 94.3 95.9 98.3 101.7 103.1 105.3 108.6 101.9 95.4 143.3

3150 90.9 91.7 92.5 93.5 94.6 96.4 99.3 101.5 103.8 104.4 107.7 100.8 95.1 143.0

4000 91.0 90.9 92.5 93.3 94.1 96.1 98.5 101.8 102.9 103.1 105.1 99.9 93.2 141.9

5000 93.8 94.1 94.4 94.6 95.3 96.3 98.7 101.0 103.2 104.7 99.5 92.7 142.1

6300 95.4 96.2 95.8 95.4 95.9 96.3 98.9 101.6 103.4 104.7 99.6 92.8 142.0

8000 95.2 98.0 98.1 96.8 95.5 96.6 98.5 101.6 102.6 101.3 101.9 98.4 91.6 142.3

10000 95.9 98.8 101.1 100.2 99.4 98.9 99.9 102.1 103.7 103.0 102.3 100.0 92.3 144.4

12500 95.2 96.3 99.9 100.1 100.2 99.3 99.3 102.5 101.3 102.5 100.5 93.0 144.7

16000 92.1 95.7 96.6 97.5 98.4 98.7 99.0 100.8 98.8 101.1 99.4 91.7 144.3

20000 90.2 92.8 95.1 95.7 96.3 97.4 98.2 97.5 98.8 98.7 98.6 90.5 144.4

25000 87.7 90.5 93.0 94.3 95.7 96.8 97.4 96.6 98.0 94.8 93.6 87.5 145.3

31500 80.3 84.8 87.3 88.9 90.4 91.8 91.8 91.6 92.8 89.5 90.8 88.4 81.7 143.2

40000 77.3 81.6 84.6 85.9 87.2 89.1 89.1 89.0 89.7 86.0 88.2 84.4 78.1 144.3

50000 73.3 77.4 80.5 82.3 84.1 85.7 85.8 85.1 86.2 82.4 84.8 80.3 73.3 145.1

63000 67.8 73.0 78.5 79.8 82.0 81.4 82.1 83.5 80.0 80.5 76.0 67.5 146.9

80000 60.5 69.2 73.2 73.9 74.6 77.5 75.8 76.8 79.7 76.5 75.6 69.2 58.7 149.0

0A5PL 104.8 106.8 108.4 108.4 108.7 109.5 111.4 113.2 115.1 117.5 123.8 121.7 118.3 159.6

PWL 116.6 117.8 118.6 118.7 119.3 120.6 123.3 125.6 127.5 129.1 133.7 130.1 125.8

PWL 117.6 119.2 118.6 118.7 119.3 121.2 123.9 125.6 127.5 129.1 133.7 130.1 125.8

DBA 103.1 104.5 105.6 105.7 106.0 107.2 109.7 112.3 114.4 116.9 123.2 119.1 113.2

NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514

VEHICLE = ADH157 TEST DATE = 06-25-82 LOCAL = C41 ANECH CH CONFIG = 6 MODEL = AX
IAPLHA = S859 IEGA = NO PML AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.40
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT =
FNIN1 = LBS XNLR = RPM XNHR = RPM V8 = 2353.4 FPS AE8 = 19.9 SO IN
FNRM8 = LBS XNLR = RPM XNHR = RPM V18 = 2353.4 FPS AE18 = 0. SO IN
TEST PT NO = 0606C = X0606C TEST PT NO = 0606C = X0606C
NO = AF048 CORP FAN SPEED = PPM

ORIGINAL PAGE 10
OF POOR QUALITY

525

XEROX 5700 24 1/2 1/2

526 A

DATPROC - FLTRAN

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0606 X0606F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50
63
80
100
125
160
200
250

88.6 91.0 89.1 88.7 88.3 88.1 88.5 92.6 96.5 103.4 107.0 108.5 140.6

315 88.6 91.0 88.7 89.5 89.0 90.1 90.1 93.4 99.9 106.4 109.1 108.8 142.4

400 88.7 90.7 90.5 89.9 89.2 94.0 91.0 96.0 102.8 110.2 111.3 109.3 144.8

500 90.6 91.6 90.6 90.3 90.8 90.8 91.6 92.7 98.1 106.3 113.6 110.5 147.1

630 91.1 91.9 91.7 91.3 91.9 92.0 93.1 94.5 100.4 106.6 115.2 113.6 148.3

800 91.2 93.0 93.1 92.5 93.4 93.7 93.9 96.8 101.9 106.6 115.5 113.8 148.5

1000 93.8 93.1 94.3 93.9 94.4 94.0 95.4 97.2 102.5 106.0 114.9 112.0 147.8

1250 96.7 94.5 94.6 96.6 96.6 95.9 97.0 98.1 103.3 105.0 113.4 109.5 146.6

1600 96.0 99.7 98.6 97.6 97.5 97.5 98.8 100.0 103.7 105.9 111.4 108.1 109.4 146.0

2000 97.0 96.6 97.7 97.6 96.8 97.0 98.9 100.5 103.4 105.6 109.7 106.5 107.4 144.9

2500 97.2 96.3 97.2 97.0 97.5 98.7 101.0 104.7 105.3 109.3 107.2 106.0 107.7 144.9

3150 97.2 97.4 97.9 97.5 97.8 98.4 100.1 101.3 104.5 107.2 105.4 106.0 107.7 144.3

4000 98.5 98.4 98.0 97.9 97.8 98.7 100.0 102.2 104.8 106.7 104.9 105.6 106.7 144.5

5000 98.5 97.6 98.3 98.0 98.6 99.3 100.6 101.6 105.6 103.8 105.8 106.2 107.2 144.7

6300 100.6 99.7 99.0 99.1 98.9 101.2 103.0 105.1 103.7 104.9 104.8 105.2 106.2 144.9

8000 100.4 101.0 100.7 99.7 99.6 100.8 102.9 106.4 105.5 105.4 106.5 106.1 106.2 146.2

10000 99.9 102.5 102.2 100.4 103.3 101.9 102.2 103.3 105.9 104.5 105.7 107.1 106.6 147.3

12500 102.0 104.3 104.3 104.3 104.3 104.7 102.8 104.7 102.3 104.9 106.2 105.4 106.5 148.5

16000 101.6 101.9 104.6 103.8 102.4 101.9 101.1 100.7 103.2 100.5 102.5 105.1 103.8 148.5

20000 98.0 100.9 100.8 100.4 100.4 100.6 99.3 102.9 99.4 100.4 101.3 101.9 101.9 148.3

25000 95.5 97.3 98.8 98.4 100.3 99.8 99.5 98.0 99.1 95.5 97.2 97.7 97.8 148.5

31500 95.0 96.6 97.7 97.4 95.0 94.8 94.3 93.5 96.9 93.1 95.7 95.0 95.5 148.8

40000 86.8 90.1 91.1 91.8 92.1 91.6 90.9 93.7 89.9 93.1 92.0 92.1 92.1 148.6

50000 83.4 86.5 88.0 87.7 88.7 88.3 87.7 87.4 87.9 87.2 83.6 80.0 76.4 150.6

63000 78.5 81.3 83.0 83.2 84.4 85.0 83.7 83.5 87.7 84.0 83.4 80.0 76.4 150.6

80000 71.5 75.4 78.2 77.9 79.2 80.5 77.7 77.4 77.9 74.2 73.6 70.2 66.6 150.9

OASPL 110.9 112.0 112.7 111.8 112.0 111.6 112.3 113.3 116.5 117.5 123.4 122.3 121.2 161.5

PWL 121.4 121.5 121.4 121.0 121.3 121.6 123.0 124.7 127.9 128.8 133.1 131.4 131.6

PNL 121.4 122.9 121.4 121.0 121.3 121.6 123.6 124.7 127.9 128.8 133.1 131.4 131.6

DBA 193.8 197.3 199.8 199.6 200.8 201.8 199.6 199.3 201.4 197.6 197.4 194.5 192.1

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514

VEHICLE = ADH157 TEST DATE = 06-25-82 LOCAL = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMF F = 78.00 MIKE HT = 29.40 RELHUM = 83.1 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC
FNINI = LBS XNL RPM XNHR = RPM V8 = 2353.4 FPS AE18 = 19.9 SO IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2353.4 FPS AE18 = 19.9 SO IN

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OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0606 X06061

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

50 67.7 71.3 72.2 72.4 72.7 72.1 76.0 73.3 77.6 83.4 89.2 88.1 82.8 163.2

63 69.6 72.1 72.3 72.6 73.5 73.7 74.4 75.0 79.7 86.8 92.0 90.4 83.9 165.6

80 70.1 72.4 73.3 73.6 74.6 74.8 75.8 76.8 82.0 87.1 94.2 90.4 84.4 166.8

100 70.1 73.4 74.6 74.8 76.1 76.5 76.6 79.0 83.4 87.1 94.4 90.4 84.0 167.0

125 72.6 73.5 75.7 76.0 77.0 78.0 79.4 84.0 86.4 93.6 88.5 83.5 166.3

150 75.3 74.7 76.1 76.7 79.1 78.5 79.5 80.1 84.6 85.2 92.0 85.8 81.8 165.1

160 75.3 74.7 76.1 76.7 79.1 78.5 79.5 80.1 84.6 85.2 92.0 85.8 81.8 165.1

200 74.3 79.6 79.7 79.5 79.9 79.9 81.1 81.9 84.8 85.9 89.7 84.0 81.5 164.5

250 75.0 78.3 78.6 79.3 79.3 79.3 81.0 82.1 84.3 85.3 87.6 81.9 78.8 163.3

315 74.8 75.6 77.8 78.4 79.1 79.4 79.5 80.6 82.4 85.3 84.6 86.9 80.9 163.4

400 74.3 76.4 78.1 78.6 79.4 79.4 80.1 81.7 82.4 84.7 83.4 84.3 79.7 162.8

500 75.1 76.9 77.9 78.7 79.1 79.1 80.1 81.3 83.0 84.7 83.3 83.3 78.6 162.9

630 76.2 77.9 79.0 79.3 79.6 79.6 80.5 81.6 82.0 84.4 81.5 80.5 77.0 163.4

800 76.2 77.9 79.0 79.3 79.6 79.6 80.5 81.6 82.0 84.4 81.5 80.5 77.0 163.4

1000 75.6 78.5 79.7 79.8 79.7 79.8 80.4 81.4 82.9 85.4 83.0 80.6 78.1 164.6

1250 74.6 79.7 81.0 83.8 84.5 83.1 81.9 82.4 83.1 81.6 80.3 77.8 70.4 165.8

1500 75.8 81.0 84.4 83.8 84.5 83.1 81.9 82.4 83.1 81.6 80.3 77.8 70.4 165.8

2000 74.4 77.9 82.6 83.1 82.4 82.1 80.0 81.2 76.5 75.3 72.8 72.8 66.9 167.0

2500 69.1 75.6 78.1 79.4 79.8 80.1 80.1 77.9 74.1 71.4 66.3 55.5 166.7

3150 63.2 69.7 74.1 75.3 78.3 78.2 77.6 79.1 74.4 67.8 64.9 57.7 43.0 166.9

4000 56.5 64.2 69.1 71.2 70.2 69.4 67.3 68.3 60.7 57.2 46.0 26.2 167.2

5000 38.5 50.1 56.3 59.5 61.9 62.8 59.3 58.9 50.0 44.7 29.3 0.9 167.1

6300 17.3 32.3 41.2 45.3 48.8 49.5 48.3 44.6 33.3 22.6 1.1 168.1

8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000

MODEL AREA = 128.3 SQ CM (19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICLE = ADH157 TEST DATE = 06-25-82 LOCAL = C41 ANECH CH CONFIG = 6 MODEL = AX PAMB HG = 29.40 MIKE HT = 78.00 RELHUM = 83.1 PCT
IAPLHA = SB59 DEO WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL
WIND DIR =

ENGINE = LBS XNL RPM XNHR = RPM V8 = 2353.4 FPS AE8 = 19.9 SQ IN
LBS XNLR = RPM XNHR = RPM V8 = 2353.4 FPS AE8 = 19.9 SQ IN

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OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0607 X0607C
BACKGROUND 82F-400-0600

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 81.5 84.3 85.6 83.6 80.7 79.3 86.7 85.1 86.6 85.7 93.5 93.2 90.1 129.2

63 85.7 92.8 90.8 88.0 96.6 94.8 91.3 92.5 91.3 98.2 93.7 98.8 93.8 136.3

80 86.9 91.7 88.5 88.6 91.2 91.1 91.0 91.5 89.8 93.7 96.9 97.5 133.7

100 87.0 94.0 89.8 91.1 92.1 92.0 92.9 94.3 92.8 94.6 97.5 101.4 137.1

125 84.1 88.6 90.7 91.2 93.0 93.2 94.3 94.2 93.7 96.2 102.1 105.3 139.6

160 84.0 88.3 86.8 87.7 89.3 98.2 91.1 92.8 98.1 103.3 106.7 108.6 140.9

200 86.1 85.9 87.6 87.2 89.8 91.9 93.8 93.7 97.4 99.2 104.6 108.8 142.7

250 85.5 89.6 89.6 90.6 90.5 91.3 93.7 96.6 98.1 104.9 110.5 113.2 146.6

315 84.8 88.3 89.6 92.0 94.1 96.0 96.9 100.6 107.7 114.2 114.6 147.9

400 86.4 89.4 90.9 90.2 92.8 93.2 101.1 98.0 101.7 110.8 114.6 116.1 149.9

500 87.2 89.7 90.8 91.8 92.6 94.3 95.9 99.0 103.3 112.1 116.5 116.9 151.0

630 88.0 93.6 92.3 92.6 94.4 95.8 97.4 100.4 104.3 114.4 117.8 117.8 152.3

800 92.7 93.2 94.7 94.0 95.1 97.2 98.6 102.7 106.7 115.5 119.2 117.8 153.2

1000 97.8 98.8 98.1 96.9 97.2 98.1 100.2 103.4 107.3 114.9 119.0 118.2 153.2

1250 95.8 101.8 102.3 101.4 101.4 101.6 101.7 103.9 107.8 114.6 119.0 118.7 153.5

1500 95.4 96.8 98.4 98.7 100.3 101.2 103.0 104.8 107.9 113.5 118.4 117.1 152.5

2000 95.8 97.4 98.6 97.7 98.1 99.7 101.4 105.2 108.1 112.6 117.4 115.5 151.5

2500 96.1 98.3 98.7 97.9 99.0 99.9 101.6 104.7 107.6 112.8 116.1 113.7 150.5

3150 95.6 97.0 97.5 97.0 98.1 100.2 102.3 105.1 107.2 112.5 115.2 110.2 149.7

4000 93.8 95.7 96.5 96.6 97.6 99.4 101.0 105.1 107.2 109.9 112.6 110.2 148.0

5000 95.4 97.6 97.7 96.5 97.7 99.1 101.3 104.8 107.1 109.7 111.7 109.3 147.7

6300 95.0 96.5 98.1 97.1 97.8 98.7 100.5 106.5 108.1 110.1 107.2 104.9 146.7

8000 93.2 96.5 97.6 97.7 98.2 99.0 99.7 100.2 103.2 104.8 106.7 107.1 146.2

10000 92.7 96.4 97.7 98.2 99.0 99.7 100.2 103.2 104.8 106.7 107.1 105.6 145.9

12500 93.5 95.7 98.2 97.7 98.8 99.7 99.1 101.7 103.6 104.8 105.2 104.0 145.7

16000 90.9 96.3 96.4 96.3 96.5 98.7 98.5 99.9 100.7 102.6 104.0 102.3 145.4

20000 89.7 91.7 93.5 94.0 96.3 97.1 97.2 97.5 98.4 99.6 102.3 100.5 145.1

25000 86.1 89.5 92.5 92.1 94.9 96.2 96.1 96.0 97.2 99.4 99.7 99.4 146.1

31500 80.3 84.4 87.0 86.8 90.2 92.3 90.8 91.5 92.7 94.7 96.6 94.4 144.8

40000 76.9 84.7 84.5 88.2 89.5 89.5 89.3 91.0 92.5 92.5 96.0 92.8 147.1

50000 74.4 78.7 81.9 82.2 85.6 87.1 85.8 86.4 89.3 92.1 94.0 91.2 149.5

63000 70.1 75.4 78.7 78.5 82.5 83.9 82.1 83.9 86.1 90.9 92.4 88.6 152.5

80000 63.9 69.8 73.8 74.1 76.9 76.7 78.6 82.5 87.3 88.7 85.5 76.8 155.4

DBA 106.5 109.0 109.7 109.1 109.9 111.0 112.0 113.6 116.2 118.9 124.5 128.3 125.9 164.5

PWL 120.6 122.9 123.6 122.7 122.7 124.2 126.3 129.0 131.6 136.1 139.6 138.2 136.1

PWL 119.4 121.6 122.3 121.7 122.7 124.2 126.3 129.0 131.6 136.1 139.6 138.2 136.1

NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514

VEHICL = ADH147 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVL = 0. FPS
IAPLHA = 5859 DEG WIND VEL = NO MPH PML AREA = FULL SPHERE EXT DIST = 40.0 FT
WIND DIR = 5859 DEG WIND VEL = NO MPH PML AREA = FULL SPHERE EXT DIST = 40.0 FT
FNRMB = LBS XNLR RPM XNHR = V8 RPM V8 = 2372.6 FPS AE8 = 19.9 SQ IN
FNRMB = LBS XNLR RPM XNHR = V8 RPM V8 = 2372.6 FPS AE8 = 19.9 SQ IN

RUNPT = 82F-ZER-0607 TAPE = X0607C TEST PT NO = 0607 NC = AE048 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0607 X0607F

ANGLES MEASURED FROM INLET, DEGREES

| | | | | | | | | | | | | | | | | |
|--|----------------------|----------------------|------------------|------------|-----------------|-------------------|--------|-----------|----------------|-------|--------------------|------------------|-----------|-----------------|----------|------------|
| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL | | |
| 50 | 81.5 | 84.3 | 85.6 | 86.7 | 87.3 | 88.0 | 88.6 | 89.1 | 89.5 | 89.7 | 89.8 | 90.1 | 90.1 | 129.2 | | |
| 63 | 85.7 | 92.2 | 94.8 | 92.8 | 90.9 | 88.0 | 86.6 | 85.1 | 82.5 | 91.3 | 99.7 | 98.2 | 93.8 | 136.3 | | |
| 80 | 86.9 | 91.7 | 88.5 | 88.6 | 91.2 | 91.1 | 91.0 | 91.5 | 89.8 | 93.7 | 96.9 | 97.5 | 133.7 | | | |
| 100 | 87.0 | 94.0 | 89.8 | 91.1 | 92.1 | 92.0 | 92.9 | 94.3 | 92.8 | 94.6 | 97.5 | 101.4 | 137.1 | | | |
| 125 | 84.1 | 88.6 | 90.7 | 91.2 | 93.0 | 93.2 | 94.3 | 94.2 | 93.7 | 96.2 | 102.1 | 105.3 | 139.6 | | | |
| 160 | 84.0 | 83.8 | 88.3 | 86.8 | 89.7 | 89.3 | 98.2 | 91.1 | 92.8 | 98.1 | 103.3 | 106.7 | 140.9 | | | |
| 200 | 86.1 | 85.9 | 87.6 | 87.6 | 89.8 | 91.9 | 93.8 | 93.7 | 97.4 | 99.2 | 104.6 | 108.8 | 142.7 | | | |
| 250 | 85.5 | 89.6 | 89.6 | 90.6 | 90.5 | 91.3 | 93.7 | 96.6 | 98.1 | 104.9 | 110.5 | 113.2 | 146.6 | | | |
| 315 | 84.8 | 88.3 | 89.6 | 89.6 | 92.0 | 94.1 | 96.0 | 96.9 | 100.6 | 107.7 | 111.5 | 114.2 | 147.9 | | | |
| 400 | 86.4 | 89.4 | 90.9 | 90.2 | 92.8 | 93.2 | 101.1 | 98.0 | 101.7 | 110.8 | 114.6 | 116.1 | 149.9 | | | |
| 500 | 87.2 | 89.7 | 90.8 | 91.8 | 92.6 | 94.3 | 95.9 | 99.0 | 103.3 | 112.1 | 116.5 | 119.9 | 151.0 | | | |
| 630 | 88.0 | 90.6 | 92.3 | 92.6 | 94.4 | 95.8 | 97.4 | 100.4 | 104.3 | 114.4 | 117.8 | 119.5 | 152.3 | | | |
| 800 | 92.7 | 93.2 | 94.7 | 94.0 | 95.1 | 97.2 | 98.6 | 102.7 | 106.7 | 115.5 | 119.2 | 117.8 | 153.2 | | | |
| 1000 | 97.8 | 98.1 | 98.8 | 98.1 | 97.2 | 98.1 | 100.2 | 103.4 | 107.8 | 114.9 | 118.2 | 115.9 | 153.2 | | | |
| 1250 | 95.8 | 101.8 | 102.3 | 101.4 | 101.6 | 101.7 | 103.9 | 107.8 | 114.6 | 119.0 | 118.7 | 116.0 | 153.5 | | | |
| 1600 | 95.8 | 96.8 | 98.4 | 98.7 | 100.3 | 101.2 | 103.0 | 104.8 | 107.9 | 113.5 | 118.4 | 117.1 | 152.5 | | | |
| 2000 | 95.8 | 97.4 | 98.6 | 97.7 | 98.1 | 99.7 | 101.4 | 105.2 | 108.1 | 112.6 | 117.4 | 115.5 | 151.5 | | | |
| 2500 | 96.1 | 98.3 | 98.7 | 97.9 | 99.0 | 99.9 | 101.6 | 104.7 | 107.6 | 112.8 | 116.1 | 113.7 | 150.5 | | | |
| 3150 | 95.6 | 97.2 | 97.5 | 97.0 | 98.1 | 100.2 | 102.3 | 105.5 | 107.8 | 111.7 | 115.2 | 112.3 | 149.7 | | | |
| 4000 | 93.8 | 95.7 | 96.5 | 96.6 | 97.6 | 99.4 | 101.0 | 105.1 | 107.2 | 109.9 | 112.6 | 110.2 | 148.0 | | | |
| 5000 | 93.4 | 97.6 | 97.7 | 96.5 | 97.7 | 99.1 | 101.3 | 104.8 | 107.1 | 109.7 | 111.7 | 109.3 | 147.7 | | | |
| 6300 | 95.0 | 96.5 | 98.1 | 97.1 | 97.8 | 98.7 | 100.5 | 104.5 | 106.5 | 108.1 | 110.1 | 107.2 | 146.7 | | | |
| 8000 | 93.2 | 96.5 | 97.6 | 97.2 | 97.7 | 98.3 | 100.0 | 103.6 | 105.5 | 107.4 | 107.9 | 105.6 | 145.9 | | | |
| 10000 | 92.7 | 96.4 | 97.7 | 98.2 | 99.0 | 99.7 | 100.2 | 103.2 | 104.8 | 106.7 | 107.1 | 105.6 | 146.2 | | | |
| 12500 | 95.5 | 98.2 | 98.8 | 97.7 | 98.8 | 99.5 | 99.7 | 101.7 | 103.6 | 105.2 | 104.0 | 101.8 | 145.7 | | | |
| 16000 | 90.9 | 94.6 | 96.3 | 96.4 | 98.5 | 98.7 | 98.5 | 99.9 | 100.7 | 102.6 | 104.0 | 102.3 | 145.4 | | | |
| 20000 | 89.7 | 91.7 | 93.5 | 94.0 | 96.3 | 97.1 | 97.2 | 97.5 | 98.4 | 99.6 | 102.3 | 100.5 | 145.1 | | | |
| 25000 | 86.1 | 89.5 | 92.5 | 94.9 | 96.2 | 96.1 | 96.0 | 97.2 | 98.3 | 99.7 | 99.4 | 92.4 | 146.1 | | | |
| 31500 | 80.3 | 84.4 | 87.0 | 86.8 | 90.2 | 92.3 | 90.8 | 91.5 | 92.7 | 94.7 | 96.6 | 94.4 | 144.8 | | | |
| 40000 | 76.9 | 82.2 | 84.7 | 84.5 | 88.4 | 89.5 | 88.9 | 89.3 | 91.0 | 92.5 | 96.0 | 92.8 | 147.1 | | | |
| 50000 | 74.4 | 78.7 | 81.9 | 82.2 | 85.6 | 87.1 | 85.8 | 86.4 | 89.3 | 92.1 | 94.0 | 91.2 | 149.5 | | | |
| 63000 | 70.1 | 75.4 | 78.7 | 78.5 | 82.5 | 83.9 | 82.1 | 83.9 | 86.1 | 90.9 | 92.4 | 88.6 | 152.5 | | | |
| 80000 | 63.9 | 69.8 | 73.8 | 74.1 | 76.9 | 79.8 | 76.7 | 78.6 | 82.5 | 87.3 | 88.7 | 85.5 | 155.4 | | | |
| DBA | 185.8 | 191.4 | 195.2 | 195.4 | 198.5 | 198.3 | 198.3 | 200.1 | 203.6 | 208.3 | 209.7 | 206.5 | 199.1 | | | |
| PNL | 120.6 | 122.9 | 123.6 | 122.9 | 122.7 | 124.2 | 127.1 | 129.0 | 131.6 | 136.1 | 139.6 | 138.2 | 136.1 | | | |
| QASPL | 106.9 | 109.6 | 110.5 | 110.0 | 111.0 | 112.0 | 113.6 | 116.2 | 118.9 | 124.5 | 128.3 | 127.6 | 125.9 | 164.5 | | |
| PNL | 119.4 | 121.6 | 122.3 | 121.7 | 122.7 | 124.2 | 126.3 | 129.0 | 131.6 | 136.1 | 139.6 | 138.2 | 136.1 | | | |
| DBA | 185.8 | 191.4 | 195.2 | 195.4 | 198.5 | 198.3 | 198.3 | 200.1 | 203.6 | 208.3 | 209.7 | 206.5 | 199.1 | | | |
| MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES | | | | | | | | | | | | | | | | |
| NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514 | | | | | | | | | | | | | | | | |
| VEHICL = ADH147 | TEST DATE = 06-25-82 | LOCAT = C41 ANECH CH | CONFIG = 6 | MODEL = AX | FLTVEL = 0. FPS | RELHUM = 47.2 PCT | NBFR = | FLV DIR = | DEG WIND VEL = | MPH | EXT DIST = 40.0 FT | EXT CONFIG = ARC | MIKE HT = | PAMB HG = 29.45 | RELHUM = | 47.2 PCT |
| LBS XNL | = | RPM | XNH | = | RPM | V8 | = | FPS | AEB | = | 19.9 SQ IN | = | FPS | AEB | = | 19.9 SQ IN |
| LBS XNLR | = | RPM | XNHR | = | RPM | V18 | = | FPS | AEB | = | 0. SQ IN | = | FPS | AEB | = | 0. SQ IN |
| TEST PT NO = 0607 | TEST PT NO = 0607 | NC = AE048 | CORR FAN SPEED = | RPM | | | | | | | | | | | | |

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0607 X06071

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

| | | | | | | | | | | | | | | | |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-----|
| 50 | 65.4 | 70.0 | 72.6 | 72.6 | 75.6 | 76.1 | 83.8 | 80.3 | 83.3 | 91.3 | 93.7 | 92.9 | 88.5 | 168.4 | PWL |
| 63 | 66.2 | 70.3 | 72.4 | 74.1 | 75.4 | 77.1 | 78.6 | 81.4 | 84.9 | 92.6 | 95.5 | 93.7 | 88.2 | 169.4 | |
| 80 | 67.0 | 71.1 | 73.9 | 74.9 | 77.2 | 78.7 | 80.2 | 82.7 | 85.9 | 94.9 | 96.7 | 94.2 | 89.7 | 170.7 | |
| 100 | 71.5 | 73.6 | 76.2 | 76.3 | 77.8 | 78.7 | 80.0 | 82.8 | 85.0 | 94.5 | 96.7 | 94.2 | 89.4 | 171.7 | |
| 125 | 76.5 | 79.2 | 79.5 | 79.1 | 79.8 | 80.8 | 82.8 | 85.6 | 88.8 | 95.3 | 97.8 | 94.7 | 88.8 | 171.7 | |
| 150 | 82.0 | 83.6 | 83.4 | 83.9 | 84.2 | 84.2 | 85.9 | 89.1 | 94.8 | 97.6 | 94.9 | 88.5 | 171.9 | | |
| 200 | 73.7 | 76.8 | 79.6 | 80.6 | 82.6 | 83.6 | 86.7 | 89.1 | 93.5 | 96.7 | 93.0 | 86.4 | 170.9 | | |
| 250 | 73.8 | 77.2 | 79.5 | 79.4 | 80.2 | 82.0 | 83.6 | 86.9 | 89.0 | 92.4 | 95.4 | 91.0 | 86.4 | 170.0 | |
| 315 | 73.7 | 77.7 | 79.2 | 79.3 | 80.9 | 81.9 | 83.4 | 86.1 | 88.1 | 92.2 | 93.7 | 88.6 | 81.3 | 169.0 | |
| 400 | 72.7 | 76.2 | 77.7 | 78.1 | 79.6 | 81.9 | 83.8 | 86.6 | 88.1 | 90.6 | 92.3 | 86.6 | 79.3 | 168.2 | |
| 500 | 70.4 | 74.2 | 76.5 | 77.3 | 78.9 | 80.8 | 82.3 | 85.8 | 87.1 | 90.6 | 92.3 | 86.6 | 79.3 | 168.2 | |
| 630 | 71.5 | 75.8 | 77.3 | 77.0 | 78.7 | 80.3 | 82.3 | 85.3 | 86.6 | 87.8 | 89.2 | 83.8 | 75.9 | 166.5 | |
| 800 | 70.6 | 74.3 | 77.4 | 77.3 | 78.5 | 79.7 | 81.3 | 84.7 | 85.7 | 85.9 | 85.7 | 79.4 | 71.4 | 165.2 | |
| 1000 | 68.3 | 74.0 | 76.6 | 77.3 | 78.3 | 79.1 | 80.6 | 83.6 | 84.6 | 84.9 | 83.0 | 77.2 | 68.3 | 164.4 | |
| 1250 | 67.4 | 73.6 | 76.5 | 78.1 | 79.4 | 80.4 | 80.7 | 83.0 | 83.6 | 83.8 | 81.8 | 76.3 | 66.7 | 164.7 | |
| 1600 | 67.3 | 72.2 | 76.6 | 77.3 | 78.9 | 80.1 | 79.2 | 81.3 | 82.0 | 81.3 | 79.0 | 73.4 | 63.3 | 164.2 | |
| 2000 | 63.7 | 70.6 | 74.3 | 75.7 | 78.5 | 79.0 | 78.5 | 79.2 | 78.7 | 76.8 | 70.0 | 57.5 | 163.9 | | |
| 2500 | 60.7 | 66.4 | 70.7 | 72.7 | 75.8 | 76.8 | 76.6 | 76.2 | 75.6 | 74.3 | 73.4 | 65.5 | 51.2 | 163.6 | |
| 3150 | 53.8 | 61.8 | 67.7 | 69.1 | 73.0 | 74.6 | 74.6 | 72.5 | 70.6 | 67.4 | 59.4 | 44.6 | 23.6 | 163.3 | |
| 4000 | 41.7 | 52.0 | 58.4 | 59.9 | 65.4 | 67.9 | 66.0 | 65.3 | 64.1 | 62.2 | 45.5 | | | 163.3 | |
| 5000 | 28.6 | 42.3 | 49.9 | 52.9 | 58.6 | 60.2 | 59.0 | 57.7 | 56.2 | 52.5 | 47.6 | 30.2 | | 165.6 | |
| 6300 | 8.3 | 24.6 | 35.0 | 39.8 | 45.7 | 47.9 | 45.9 | 44.0 | 42.4 | 37.9 | 27.9 | 4.5 | | 168.0 | |
| 8000 | | | | | | | | | | | | | | 171.0 | |
| 10000 | | | | | | | | | | | | | | 173.9 | |

ORIGINAL FACTOR
OF POOR QUALITY

MODEL AREA = 128.3 SQ CM (19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514

VEHICL = ADH147 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 PAMB HG = 29.45 RELHUM = 47.2 PCT
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 79.00 MIKE HT = NBRF
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL
FNINI = LBS XNL RPM XNHR XNHR = RPM V8 = 2372.6 FPS AE8 = 19.9 SQ IN
FNRMBS = LBS XNLR = RPM V8 = 2372.6 FPS AE18 = 0. SQ IN
RUNPT = 82F-ZER-0607 TAPE = X06071 TEST PT NO = 0607 NC = AE048 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0608 X0608C

BACKGROUND 82F-400-0600 X06000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 84.5 84.8 86.6 85.4 83.7 80.1 85.7 84.9 82.8 81.7 90.3 90.7 96.1 129.0

63 84.2 92.7 95.8 92.8 87.3 96.9 94.3 88.3 87.8 92.7 92.2 96.3 135.1

80 87.4 91.7 88.2 89.5 91.2 91.9 91.0 91.2 88.8 93.2 96.1 98.8 133.9

100 86.5 92.7 88.6 89.1 91.1 90.8 91.9 93.1 90.8 95.5 100.2 101.8 135.7

125 83.9 86.6 88.9 89.7 91.5 91.7 92.5 92.4 90.9 92.5 100.4 105.7 138.3

150 82.3 80.5 87.1 85.6 86.7 86.8 94.7 88.1 90.1 93.6 104.9 107.1 138.9

200 82.6 83.6 85.4 84.7 86.0 87.9 91.3 90.7 93.9 93.4 101.1 106.0 139.8

250 81.0 85.3 85.1 86.1 87.0 88.3 90.0 92.9 93.8 99.6 107.0 110.4 143.5

315 81.0 84.8 85.8 86.6 88.0 89.6 92.5 93.1 96.3 102.4 109.0 112.0 145.0

400 82.9 85.4 86.7 86.5 88.6 89.4 95.3 94.0 97.4 105.0 111.1 113.3 146.2

500 83.2 85.5 87.3 86.9 88.9 90.5 92.6 95.3 98.8 107.1 113.5 118.9 147.3

630 83.5 86.3 89.1 88.9 91.8 93.7 96.6 99.8 109.1 115.0 113.7 106.1 148.2

800 86.7 87.2 89.5 89.7 91.6 93.0 94.6 98.5 102.5 109.8 116.7 112.1 148.9

1000 91.0 90.1 91.4 92.7 93.3 96.5 99.4 103.6 109.7 116.5 111.0 101.4 148.7

1250 89.3 94.3 94.3 94.1 95.5 95.6 97.5 99.9 104.1 108.2 115.3 109.2 147.6

1600 90.1 90.3 93.2 93.2 95.6 96.7 99.3 100.8 104.5 107.5 114.7 107.1 147.0

2000 90.6 90.5 92.9 92.8 94.3 96.2 98.2 101.3 104.4 112.2 107.2 98.8 145.5

2500 91.1 91.8 92.9 93.2 95.0 96.9 98.8 101.7 104.3 107.3 109.6 103.2 144.4

3150 93.3 94.0 94.6 93.9 95.1 96.6 98.7 102.3 104.0 104.3 105.4 99.0 142.7

4000 91.5 93.0 93.0 93.4 95.8 96.7 98.7 102.3 103.9 104.6 106.1 99.4 142.7

5000 93.3 94.0 94.6 93.9 95.1 96.6 98.7 102.3 104.0 104.3 105.4 99.0 142.7

6300 94.4 95.4 96.5 95.0 96.1 96.6 98.7 101.8 104.1 103.7 104.0 98.1 142.7

8000 93.0 96.0 97.9 97.3 96.0 96.3 98.5 101.1 103.3 102.6 102.9 96.7 142.5

10000 94.4 97.3 99.1 98.9 99.4 99.1 99.6 101.8 103.9 103.7 103.0 97.7 144.2

12500 95.5 97.1 99.4 98.9 99.2 99.5 99.5 101.2 103.7 103.1 102.4 98.2 144.8

16000 92.9 95.2 97.4 96.5 98.1 98.4 99.5 101.8 100.5 101.6 96.4 92.0 144.5

20000 92.8 95.1 97.4 95.9 96.8 97.2 96.4 97.8 97.8 96.0 95.3 91.0 144.4

25000 87.7 90.2 93.8 93.7 95.9 96.8 97.2 96.4 97.8 96.6 94.0 88.0 145.4

31500 80.6 84.8 87.6 87.1 90.7 92.6 92.6 91.5 91.6 93.3 91.2 88.7 143.5

40000 76.8 81.4 84.6 84.4 87.9 88.8 89.4 89.0 90.4 87.7 89.2 85.2 144.6

50000 73.3 77.1 80.5 80.8 84.1 85.7 85.1 85.3 87.2 84.6 85.0 80.8 145.3

63000 67.6 72.5 76.8 77.0 80.1 81.7 80.4 82.1 84.7 82.7 81.5 75.7 147.2

80000 60.3 68.9 72.5 72.8 75.3 77.2 75.3 76.3 80.4 80.0 77.1 69.2 149.6

DBA 102.9 104.3 105.6 105.3 106.5 107.5 109.8 112.6 115.4 118.6 124.1 119.8 113.8

PWL 117.2 119.0 118.9 118.2 119.7 120.9 123.5 125.9 128.4 130.8 134.8 130.5 126.4

DBA 102.9 104.3 105.6 105.3 106.5 107.5 109.8 112.6 115.4 118.6 124.1 119.8 113.8

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH158 TEST DATE = 06-25-82 LGCAT = C41 ANECH CH CNFIG = 6 MODEL = AX FLTVL = 400. FPS
TAMBA = 78.00 TAMB F = FULL SPHERE EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = 29.40 RELHUM = 83.1 PCT
WIND DIR = SB59 DEG WIND VEL = NO MPH

FNIN1 = LBS XNL RPM = XNHR XNH RPM = V8 = 2387.2 FPS AE8 = 19.9 SQ IN
FNRMAMB = LBS XNL RPM = XNHR XNH RPM = V8 = 2387.2 FPS AE8 = 19.9 SQ IN
CORR FAN SPEED = RPM

ORIGINAL PAGE 13
OF POOR QUALITY

DATPROC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - B2F-400-0608 X06081

ANGLES MEASURED FROM INLET, DEGREES

FREO 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

| | | | | | | | | | | | | | | |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 50 | 67.7 | 71.8 | 72.4 | 72.4 | 73.2 | 72.6 | 76.8 | 73.6 | 78.3 | 84.8 | 89.3 | 88.8 | 83.4 | 163.7 |
| 63 | 69.6 | 72.4 | 73.3 | 72.2 | 73.5 | 73.7 | 74.6 | 75.7 | 80.2 | 88.1 | 92.6 | 91.0 | 84.5 | 166.3 |
| 80 | 69.8 | 72.4 | 73.8 | 73.6 | 74.6 | 75.1 | 75.8 | 77.3 | 82.9 | 88.9 | 94.8 | 90.8 | 84.8 | 167.4 |
| 100 | 70.1 | 73.2 | 75.6 | 74.6 | 76.3 | 76.3 | 76.5 | 78.9 | 84.4 | 89.3 | 95.3 | 90.9 | 85.2 | 168.0 |
| 125 | 73.1 | 74.0 | 76.0 | 75.5 | 77.1 | 76.7 | 78.5 | 79.9 | 85.0 | 87.9 | 94.2 | 89.2 | 84.3 | 167.0 |
| 150 | 75.2 | 76.7 | 76.4 | 76.1 | 79.0 | 79.5 | 80.4 | 85.3 | 87.2 | 93.5 | 87.0 | 83.3 | 166.4 | |
| 200 | 74.6 | 80.3 | 80.3 | 79.6 | 80.4 | 80.2 | 81.4 | 81.4 | 85.6 | 87.2 | 91.3 | 85.9 | 82.4 | 165.7 |
| 250 | 75.8 | 76.5 | 79.3 | 78.8 | 79.1 | 79.8 | 80.4 | 82.0 | 85.4 | 87.2 | 88.5 | 83.1 | 79.8 | 164.3 |
| 315 | 75.8 | 76.4 | 78.8 | 78.2 | 79.8 | 80.5 | 81.0 | 82.3 | 86.1 | 87.6 | 82.2 | 78.4 | 164.2 | |
| 400 | 75.8 | 77.4 | 78.6 | 78.4 | 79.9 | 80.4 | 81.8 | 83.0 | 85.7 | 85.0 | 85.3 | 79.2 | 77.1 | 163.6 |
| 500 | 75.6 | 77.4 | 78.4 | 77.9 | 79.3 | 79.8 | 81.5 | 83.5 | 85.4 | 84.2 | 83.9 | 78.0 | 74.9 | 163.4 |
| 630 | 75.1 | 76.5 | 78.3 | 78.2 | 80.1 | 80.7 | 81.6 | 83.3 | 85.6 | 83.6 | 82.5 | 76.8 | 74.1 | 163.5 |
| 800 | 76.1 | 78.4 | 79.7 | 78.9 | 80.5 | 80.1 | 81.6 | 83.0 | 84.6 | 82.1 | 80.9 | 74.8 | 71.3 | 163.4 |
| 1000 | 75.5 | 78.5 | 80.5 | 79.3 | 80.6 | 80.1 | 81.3 | 82.0 | 85.5 | 83.6 | 81.2 | 75.7 | 71.9 | 164.6 |
| 1250 | 74.0 | 79.1 | 81.9 | 81.5 | 83.9 | 82.8 | 82.4 | 82.8 | 85.9 | 83.4 | 80.8 | 76.1 | 71.4 | 166.2 |
| 1600 | 75.1 | 80.0 | 82.7 | 82.6 | 83.5 | 82.9 | 82.1 | 82.2 | 84.2 | 80.9 | 79.7 | 73.4 | 68.1 | 166.8 |
| 2000 | 74.6 | 78.6 | 82.1 | 82.0 | 82.2 | 81.6 | 80.9 | 80.5 | 81.3 | 77.2 | 75.3 | 69.4 | 62.6 | 166.6 |
| 2500 | 69.8 | 75.1 | 78.8 | 78.5 | 80.6 | 80.1 | 79.0 | 77.7 | 80.3 | 75.8 | 72.8 | 67.0 | 56.4 | 167.0 |
| 3150 | 63.7 | 69.7 | 74.1 | 75.0 | 78.6 | 77.7 | 77.7 | 75.4 | 74.7 | 69.6 | 66.2 | 58.6 | 43.9 | 167.2 |
| 4000 | 56.5 | 63.9 | 69.8 | 70.6 | 70.4 | 71.1 | 69.1 | 67.2 | 68.8 | 62.2 | 58.2 | 47.0 | 27.3 | 167.6 |
| 5000 | 38.7 | 50.1 | 56.6 | 57.7 | 62.7 | 62.5 | 62.0 | 59.2 | 59.3 | 51.5 | 44.3 | 29.3 | 0.9 | 167.2 |
| 6300 | 16.8 | 32.0 | 41.2 | 43.9 | 48.8 | 49.5 | 47.5 | 44.5 | 44.2 | 34.3 | 21.5 | | | 167.7 |
| 8000 | | | | | | | | | | | | | | 169.3 |
| 10000 | | | | | | | | | | | | | | 169.4 |
| 12500 | | | | | | | | | | | | | | |
| 16000 | | | | | | | | | | | | | | |
| 20000 | | | | | | | | | | | | | | |
| 25000 | | | | | | | | | | | | | | |
| 31500 | | | | | | | | | | | | | | |
| 40000 | | | | | | | | | | | | | | |
| 50000 | | | | | | | | | | | | | | |
| 63000 | | | | | | | | | | | | | | |
| 80000 | | | | | | | | | | | | | | |

ORIGINAL PAGE IS
OF POOR QUALITY

MODEL AREA = 128.3 SQ CM (19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREO SHIFT = -9

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICLE = ADH158 TEST DATE = 06-25-82 LOCAL = C41 ANECH CH CONFIG = 6 MODEL = AX FLIVEL = 400. FPS
 TAPLHA = SB59 LEGA = NO PVL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.40 RELHUM = 83.1 PCT
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR

FNINI = LBS XNL RPM XNH RPM V8 = 2387.2 FPS AEB = 19.9 SQ IN
 FNRAMB = LBS XNLR RPM XNHR RPM V18 = 2387.2 FPS AEB = 19.9 SQ IN

RU B2F-400-0608 TAPE = X06081 TEST PT NO = 06 NC = AE048 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0611 X0611F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 81.3 83.8 84.6 81.4 83.2 80.6 86.7 84.6 85.1 86.7 93.5 94.5 89.9 129.4

63 83.5 91.0 92.5 91.1 91.6 88.8 96.9 94.1 91.0 93.8 99.0 93.4 93.6 136.2

80 86.4 91.2 88.2 88.3 88.9 91.0 90.9 90.5 91.5 90.1 93.7 96.1 97.8 133.5

100 87.5 94.5 90.0 91.1 92.6 92.0 92.6 94.6 92.5 94.8 98.2 101.4 102.8 137.3

125 83.9 88.6 90.7 91.2 92.8 93.4 94.5 94.2 93.9 96.7 102.6 105.3 106.2 139.8

160 84.0 83.8 88.6 88.7 89.3 96.7 91.3 92.6 97.6 103.5 106.7 108.6 140.8

200 86.3 86.1 87.6 87.9 90.3 92.4 93.8 94.4 98.1 100.0 105.1 109.8 111.2 143.3

250 85.5 89.6 89.6 90.4 90.2 92.1 94.0 97.1 98.6 104.9 110.5 113.5 113.4 146.7

315 84.8 89.1 89.1 89.1 92.5 94.6 96.5 97.4 100.8 107.7 112.0 115.0 114.9 148.4

400 86.1 90.7 90.2 90.5 92.8 93.2 100.8 98.0 101.9 111.0 114.4 116.3 114.7 149.9

500 87.2 90.0 91.3 91.8 93.4 94.5 96.6 99.5 103.6 112.8 116.2 116.6 115.0 151.0

630 88.5 91.1 92.8 93.1 94.4 96.1 97.7 100.6 104.8 115.1 117.8 117.7 116.1 152.5

800 92.9 93.4 94.5 94.2 96.1 97.5 98.8 102.5 106.5 115.8 119.4 118.1 116.5 153.5

1000 98.3 98.6 98.3 97.1 97.5 98.6 100.5 103.4 107.8 118.5 119.3 118.1 116.1 153.5

1250 97.0 102.3 102.6 101.9 101.4 101.6 104.4 107.8 115.4 119.3 117.9 116.2 115.3 153.6

1500 95.9 96.8 98.9 99.2 100.8 101.7 103.3 105.1 108.4 113.5 119.6 117.3 115.1 153.2

2000 96.3 97.7 98.3 99.7 98.3 99.7 101.9 105.2 108.1 113.1 117.4 113.4 110.9 150.6

2500 96.3 98.6 99.4 97.9 99.0 100.1 102.1 105.2 107.8 112.8 116.4 113.4 110.9 150.6

3150 96.4 97.5 98.0 97.5 99.1 100.4 102.8 105.5 108.1 111.9 115.7 112.1 110.1 150.0

4000 94.8 96.2 97.0 96.6 98.1 99.6 101.5 105.3 107.4 109.9 113.1 110.2 108.4 148.3

5000 95.6 98.3 98.0 97.2 97.9 99.9 101.5 104.8 107.1 109.9 112.7 107.3 104.8 148.2

6300 94.0 96.8 96.8 96.4 97.4 98.8 99.0 101.5 105.2 106.7 107.8 110.6 108.2 147.2

8000 92.7 96.5 97.8 97.7 98.2 99.3 100.7 104.1 105.3 107.4 108.6 106.9 104.5 146.4

10000 92.5 96.4 97.5 97.7 98.8 100.5 101.0 103.2 105.1 107.2 107.4 105.8 104.3 146.5

12500 93.5 97.7 99.0 99.0 99.7 98.8 100.2 99.8 101.7 103.3 105.0 106.0 104.5 146.1

16000 90.9 94.9 96.6 96.4 98.7 98.9 99.3 100.4 101.2 102.1 104.2 102.5 100.0 145.7

20000 88.7 91.4 94.3 97.1 97.8 98.0 99.2 99.6 102.6 100.3 98.4 145.5

25000 85.3 92.6 95.6 96.7 96.4 96.5 91.5 93.5 94.9 97.1 98.2 94.1 146.0

31500 80.0 84.7 86.7 87.3 90.7 92.3 91.6 91.5 93.5 94.9 97.1 98.2 94.1 145.0

40000 76.9 81.7 85.2 84.5 89.2 90.3 89.6 89.8 91.3 93.3 96.0 92.3 85.2 147.3

50000 74.2 79.2 82.1 82.2 86.1 87.6 86.3 86.7 88.8 92.4 93.8 90.7 82.6 149.5

63000 69.6 75.6 78.9 79.0 82.5 84.6 84.6 87.1 91.2 92.6 88.1 79.2 79.2 152.8

80000 63.4 69.8 74.1 75.1 77.4 80.5 77.7 78.9 83.0 87.5 89.7 73.3 73.3 155.7

OASPL 107.2 109.8 110.7 110.2 111.4 112.4 114.0 116.4 119.0 124.8 128.6 127.7 126.1 164.7

PNL 119.8 121.9 122.6 122.0 123.3 124.5 126.7 129.2 131.8 136.3 140.0 138.3 136.4

PNLT 120.9 123.4 123.9 123.2 123.3 124.5 127.4 129.2 131.8 136.3 140.0 138.3 136.4

DBA 185.3 191.5 195.5 196.3 198.9 201.7 199.1 200.5 204.2 208.6 210.6 204.5 195.1

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00

NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514

VEHICL = ADH148 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6

MODEL = AX FLTVEL = 0. FPS PAMB HG = 29.45 RELHUM = 47.2 PCT NBFR =

WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT =

FNINI = LBS XNL RPM XNHR = RPM V8 = 2393.7 FPS AE8 = 19.9 SQ IN

FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2393.7 FPS AE8 = 19.9 SQ IN

TEST PT NO = 061 NC = AE048 CORR FAN SPEED = RPM

ZER-0611 TAPE = X0611F

PT =

ORIGINAL PAGE IS
OF POOR QUALITY

FCF

WELL PAGE PRINTING SYSTEM-P118-02

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0611 X06111

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

65.2 70.2 71.8 72.8 75.6 76.1 83.6 80.3 83.6 91.6 93.4 93.2 88.2 168.4

63 66.2 70.5 72.9 74.1 76.1 79.4 81.9 85.4 93.4 95.2 93.4 88.5 169.5

60 67.5 71.6 74.4 75.4 77.2 78.9 80.4 82.9 86.4 95.6 96.7 89.4 171.0

100 71.8 73.9 76.0 76.5 78.8 80.3 81.5 84.8 88.0 96.2 98.3 94.7 171.9

125 77.0 78.9 79.6 80.1 81.3 83.1 85.6 89.3 95.8 98.1 94.9 89.1 172.0

150 75.6 82.5 83.9 84.2 86.4 89.1 95.6 97.8 94.2 88.8 172.0

200 74.2 76.8 80.1 81.1 83.1 84.1 85.6 87.0 89.6 93.5 98.0 87.2 171.6

250 74.3 77.4 79.3 79.4 80.5 82.0 84.1 86.9 89.0 92.9 95.4 91.2 84.7 170.1

315 73.9 77.9 80.0 79.3 80.9 82.1 83.9 86.6 88.4 92.2 93.9 88.3 81.6 169.1

400 73.5 76.4 78.2 78.6 80.6 82.1 84.3 86.6 88.3 90.9 92.8 86.4 79.8 168.5

500 71.4 74.7 77.0 77.3 79.4 81.0 82.8 86.1 87.4 88.5 89.7 83.8 77.1 166.8

630 71.7 76.5 77.5 77.7 78.9 81.0 82.5 85.3 86.6 88.1 88.9 82.7 74.9 166.7

800 67.6 74.0 76.9 77.6 79.5 79.9 82.3 85.4 86.0 87.6 88.2 80.4 72.6 165.7

1000 67.8 74.0 76.9 77.6 79.5 79.9 82.3 85.4 86.0 87.6 88.2 80.4 72.6 164.9

1250 67.1 73.6 76.3 77.6 79.4 81.1 81.4 83.0 83.9 84.3 82.0 76.6 68.2 165.0

1600 67.3 72.2 77.3 78.9 80.6 80.0 81.3 81.6 79.8 73.9 64.5 164.6

2000 63.7 70.9 74.6 75.7 78.7 79.2 79.3 79.7 78.1 77.1 70.3 64.5 164.1

2500 59.7 66.2 71.4 72.9 76.5 77.6 77.1 76.7 76.3 74.3 73.6 65.2 52.0 164.0

3150 53.0 62.0 67.2 69.6 73.7 75.1 74.5 73.5 73.0 70.1 67.9 58.2 39.3 164.5

4000 41.5 52.3 58.1 61.1 65.9 67.9 66.7 65.3 64.9 62.5 58.5 44.7 18.1 163.5

5000 28.6 41.8 50.4 52.9 59.3 61.0 59.8 58.2 56.5 53.3 47.6 29.7 165.8

6300 8.1 25.1 35.2 39.8 46.2 48.4 46.4 44.3 42.9 38.2 27.6 4.0 168.0

8000 10.7 17.3 24.4 27.6 24.2 23.0 18.9 12.1 171.2

10000 174.2

12500

16000

20000

25000

31500

40000

50000

63000

80000

MODEL AREA = 128.3 SQ CM (19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514

VEHICL = ADH148 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.45 RELHUM = 47.2 PCT
WIND DIR = DEO WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIG = SL MIKE HT = NBFR =

FNINI = LBS XNL RPM = XNH RPM V8 = 2393.7 FPS AE8 = 19.9 SQ IN
FNRAMB = LBS XNLR RPM = XNHR RPM V18 = 2393.7 FPS AE18 = 0. SQ IN

RUNPT = 82F-ZER-0611 TAPE = X06111 TEST PT NO = 0611 NC = AE048 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0612 X0612C
BACKGROUND 82F-400-0600 X06000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 84.8 83.3 84.6 84.6 81.7 80.6 83.7 86.9 82.8 84.9 90.5 91.5 94.6 128.6

63 84.7 88.0 94.0 92.8 90.6 87.0 94.6 94.6 88.8 92.1 93.7 93.2 94.8 134.3

80 86.9 92.0 89.2 89.8 90.9 91.2 91.1 90.5 91.2 88.8 92.9 96.1 97.8 133.7

100 86.7 92.2 88.5 89.3 90.3 90.3 91.6 90.8 90.6 95.2 99.9 101.6 135.5

125 83.9 87.1 89.2 90.2 91.3 91.2 92.8 92.2 90.9 92.5 99.9 104.0 138.1

160 82.8 81.0 86.8 86.9 86.6 85.2 88.6 89.8 83.6 93.6 101.5 104.9 139.0

200 82.8 83.6 85.1 84.9 86.3 88.4 91.3 91.2 94.1 94.2 101.3 106.8 140.2

250 81.5 85.3 85.1 86.4 87.2 88.8 90.5 93.1 94.3 99.4 107.0 110.6 143.6

315 81.5 84.8 85.6 86.4 88.0 89.8 92.2 93.1 96.6 102.4 109.0 112.2 145.1

400 83.1 85.7 86.4 86.5 88.8 89.4 95.6 94.0 97.9 104.8 110.9 113.6 146.3

500 84.2 86.7 87.3 88.0 89.4 90.5 92.6 95.0 99.0 107.3 114.2 118.6 147.6

630 83.8 86.8 88.8 89.9 90.2 92.1 94.2 96.6 100.3 109.1 115.0 118.7 148.2

800 87.2 87.2 89.5 90.2 91.6 93.5 94.6 99.0 102.5 109.8 116.9 121.3 149.1

1000 91.0 90.3 91.6 91.4 92.5 93.8 96.2 99.6 103.4 108.9 116.6 121.5 148.7

1250 90.0 94.3 94.6 93.6 94.2 95.6 98.0 100.4 104.1 108.4 116.0 121.0 148.2

1600 90.1 91.0 93.2 93.2 95.6 96.7 99.3 101.3 105.0 107.3 114.7 108.1 147.1

2000 90.8 91.5 92.9 92.9 94.1 95.7 97.8 101.8 104.6 107.2 111.9 106.2 145.5

2500 91.8 92.3 93.2 92.9 94.5 96.4 98.4 102.2 104.3 106.8 109.9 103.9 144.4

3150 92.1 92.7 93.2 93.0 94.8 96.9 99.3 101.8 104.6 105.9 108.9 102.3 143.9

4000 92.2 92.2 93.8 93.5 94.6 96.8 98.2 101.8 103.7 104.6 106.1 100.4 142.6

5000 94.1 94.8 95.7 95.3 96.4 98.3 99.7 101.8 103.8 104.6 106.0 99.5 142.9

6300 94.6 95.7 96.5 96.3 97.4 98.9 100.9 101.9 104.1 103.2 104.3 98.3 142.7

8000 93.5 96.3 97.2 96.5 98.6 98.9 101.6 103.1 102.7 102.9 97.0 92.1 142.6

10000 95.5 97.4 98.9 98.9 99.6 99.9 101.6 104.0 104.3 103.1 98.3 93.1 144.3

12500 96.8 97.2 100.0 98.6 99.6 99.3 99.1 101.6 103.6 103.2 102.5 98.6 144.9

16000 93.8 95.9 97.8 97.5 98.8 98.0 98.9 100.2 101.7 101.0 101.3 97.4 144.8

20000 91.7 93.8 95.5 95.5 97.4 96.2 97.3 98.6 99.6 98.1 95.8 91.5 144.9

25000 88.8 91.7 94.3 93.7 96.8 97.2 97.3 98.6 98.3 96.3 96.5 94.7 145.8

31500 82.2 86.3 88.5 88.5 91.1 92.7 92.7 94.0 92.0 92.3 89.5 82.8 144.2

40000 78.4 82.9 86.1 85.8 89.6 89.9 90.0 90.4 89.1 89.9 86.0 79.1 145.7

50000 75.1 79.1 82.5 82.0 86.0 86.4 86.4 86.5 86.5 82.4 75.1 146.8

63000 69.5 74.9 78.2 78.3 83.0 83.0 83.0 83.5 83.5 82.9 77.7 68.9 146.5

80000 62.0 70.6 74.9 74.6 76.8 76.8 76.8 78.4 76.8 77.9 82.1 78.4 151.3

CASPL 105.3 106.9 108.4 107.9 109.1 109.6 111.4 113.6 116.0 119.1 124.8 122.3 118.9 160.7

PMLT 116.8 119.0 118.4 119.6 121.0 123.9 125.8 128.4 130.6 134.9 130.8 126.6

DBA 103.4 104.7 105.7 105.2 106.4 107.5 109.7 112.7 115.4 118.5 124.3 120.1 114.0

NASA SHOCK CELL/20 EL ANN C-D SUPP NGZ SC-6/NAS3-22514

VEHICLE = ADH159 TEST DATE = 06-25-82 LOCAL = CAT ANECH CH CONFIG = 6 MODEL = AX FLTVL = 400. FPS
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC TAMB F = 82.00 PAMB HG = 29.40 MIKE HT = NBFR = 63.5 PCT
FNIN1 = LBS XNL RPM XNHR = RPM V8 = 2395.0 FPS AE8 = 19.9 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2395.0 FPS AE18 = 0. SQ IN
PUNPT = 82F-400-0612 TAPE = X0612C TEST PT NO = 0612 NC = AE048 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0612 X0612F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

FREQ
50
63
80
100
125
160
200

| | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 250 | 89.3 | 91.6 | 89.9 | 89.6 | 88.8 | 88.6 | 89.5 | 93.1 | 98.0 | 104.1 | 107.8 | 109.0 | 141.3 |
| 315 | 89.2 | 91.6 | 89.9 | 89.6 | 89.0 | 89.7 | 90.3 | 94.7 | 100.7 | 106.4 | 109.9 | 143.0 | |
| 400 | 89.2 | 91.2 | 90.5 | 89.8 | 90.7 | 89.7 | 90.9 | 90.3 | 94.7 | 100.7 | 106.4 | 143.0 | |
| 500 | 90.8 | 92.1 | 91.4 | 89.9 | 91.3 | 90.8 | 91.9 | 93.2 | 99.0 | 107.4 | 113.4 | 147.7 | |
| 630 | 91.9 | 92.1 | 92.2 | 91.5 | 92.2 | 92.5 | 93.6 | 95.0 | 101.2 | 108.4 | 116.0 | 149.1 | |
| 800 | 91.4 | 93.2 | 93.6 | 92.4 | 93.6 | 94.0 | 93.8 | 97.1 | 102.7 | 108.2 | 116.5 | 149.6 | |
| 1000 | 94.8 | 93.6 | 94.5 | 93.8 | 94.3 | 94.5 | 95.7 | 98.0 | 103.5 | 107.8 | 116.1 | 149.1 | |
| 1250 | 96.7 | 95.3 | 95.7 | 94.4 | 96.3 | 96.4 | 97.5 | 98.9 | 104.6 | 106.8 | 115.0 | 148.2 | |
| 1500 | 96.2 | 96.8 | 96.0 | 96.5 | 96.3 | 96.4 | 97.0 | 98.0 | 104.7 | 107.2 | 111.0 | 146.1 | |
| 2000 | 97.8 | 97.6 | 98.5 | 97.1 | 96.8 | 97.0 | 98.0 | 98.0 | 100.8 | 104.7 | 108.5 | 146.1 | |
| 2500 | 98.4 | 98.0 | 98.2 | 96.5 | 97.4 | 98.0 | 98.7 | 98.7 | 101.6 | 105.4 | 107.4 | 145.9 | |
| 3150 | 99.4 | 98.9 | 98.6 | 97.1 | 98.1 | 98.9 | 100.1 | 101.5 | 105.3 | 106.1 | 108.3 | 145.2 | |
| 4000 | 99.8 | 98.9 | 98.5 | 98.2 | 98.7 | 99.3 | 100.5 | 102.3 | 105.3 | 105.9 | 104.3 | 145.2 | |
| 5000 | 99.8 | 98.9 | 98.5 | 98.2 | 98.7 | 99.3 | 100.5 | 102.3 | 105.3 | 105.9 | 104.3 | 145.2 | |
| 6300 | 100.2 | 100.6 | 100.8 | 98.1 | 100.0 | 99.4 | 101.1 | 102.9 | 105.3 | 104.7 | 105.6 | 145.2 | |
| 8000 | 100.6 | 101.3 | 101.5 | 99.6 | 100.5 | 99.9 | 100.8 | 102.7 | 106.5 | 106.0 | 104.7 | 146.4 | |
| 10000 | 100.0 | 102.3 | 102.4 | 100.9 | 103.5 | 101.9 | 102.2 | 102.8 | 107.1 | 106.5 | 105.4 | 147.7 | |
| 12500 | 102.3 | 103.5 | 104.1 | 102.9 | 103.6 | 102.3 | 101.6 | 103.2 | 105.6 | 104.7 | 105.3 | 148.4 | |
| 15000 | 102.9 | 102.6 | 104.6 | 102.2 | 102.9 | 101.0 | 101.3 | 101.9 | 103.8 | 101.7 | 103.5 | 148.6 | |
| 20000 | 99.7 | 101.1 | 102.1 | 100.8 | 101.4 | 100.4 | 100.4 | 100.3 | 103.5 | 101.2 | 101.6 | 149.0 | |
| 25000 | 97.1 | 98.4 | 99.2 | 98.5 | 100.9 | 99.7 | 98.4 | 100.2 | 98.0 | 98.8 | 99.2 | 149.2 | |
| 31500 | 93.4 | 95.5 | 97.2 | 95.6 | 95.7 | 95.7 | 95.1 | 94.1 | 98.2 | 95.8 | 97.3 | 149.2 | |
| 40000 | 88.7 | 91.5 | 92.3 | 90.7 | 92.2 | 92.9 | 92.4 | 92.1 | 95.5 | 93.2 | 93.9 | 150.0 | |
| 50000 | 84.5 | 87.7 | 89.5 | 87.7 | 90.6 | 89.7 | 88.8 | 88.2 | 92.4 | 89.9 | 87.3 | 150.7 | |
| 63000 | 80.3 | 83.0 | 84.9 | 83.1 | 85.9 | 86.0 | 83.8 | 84.1 | 89.9 | 89.3 | 86.0 | 152.5 | |
| 80000 | 73.2 | 77.3 | 79.2 | 77.7 | 81.4 | 81.4 | 78.6 | 78.3 | 80.1 | 79.5 | 76.2 | 152.4 | |
| QASPL | 111.6 | 112.3 | 112.8 | 111.2 | 112.4 | 111.7 | 112.3 | 113.6 | 117.3 | 119.0 | 124.5 | 122.1 | 162.5 |
| PNL | 122.3 | 122.4 | 122.2 | 120.7 | 121.7 | 121.9 | 123.0 | 124.9 | 128.6 | 130.2 | 134.2 | 132.6 | |
| PNLT | 123.3 | 123.5 | 122.2 | 120.7 | 121.7 | 121.9 | 123.0 | 124.9 | 128.6 | 130.2 | 134.2 | 132.6 | |
| DBA | 195.5 | 199.1 | 201.0 | 199.4 | 202.8 | 202.8 | 200.3 | 200.1 | 203.4 | 202.7 | 199.7 | 195.4 | 193.0 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH159 TEST DATE = 06-25-82
IAPLHA = SB59
WIND DIR = DEG WIND VEL = MPH
LOCAT = C41 ANECH CH
PWL AREA = FULL SPHERE
EXT DIST = 40.0 FT
EXT CONFIG = ARC
TAMB F = 6
MODEL = AX
FLVEL = 400. FPS
RELHUM = 65.5 PCT
NBFR =
PAMB HG = 29.40
MIKE HT =
AE8 = 19.9 SQ IN
FPS AE8 =
FNRAMB = LBS XNLR
RPM XNHR
RPM V8 = 2395.0 FPS
AE8 = 0. SQ IN
RPM

RUNPT = 82F-400-0612 TAPE = X0612F TEST PT NO = 0612 NC = AE048 CORR FAN SPEED = RPM

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DATPROC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0612 X06121

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

| | | | | | | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 50 | 68.2 | 71.8 | 72.2 | 72.1 | 73.4 | 72.6 | 77.0 | 73.6 | 78.7 | 85.2 | 90.3 | 88.7 | 83.9 | 164.2 |
| 63 | 69.8 | 72.6 | 73.0 | 72.2 | 74.0 | 73.7 | 74.6 | 75.5 | 80.7 | 88.0 | 92.4 | 90.8 | 84.8 | 166.2 |
| 80 | 70.8 | 73.8 | 73.8 | 74.9 | 75.3 | 76.3 | 76.8 | 79.4 | 82.8 | 88.9 | 95.0 | 91.0 | 84.6 | 167.5 |
| 100 | 70.3 | 73.7 | 75.4 | 74.6 | 76.3 | 76.8 | 76.5 | 79.4 | 84.2 | 88.6 | 95.4 | 91.5 | 85.2 | 168.1 |
| 125 | 73.6 | 74.0 | 76.0 | 76.9 | 77.2 | 78.2 | 78.2 | 80.2 | 85.0 | 88.1 | 94.9 | 90.0 | 84.8 | 167.6 |
| 150 | 75.3 | 75.5 | 77.0 | 76.4 | 78.8 | 79.0 | 80.0 | 80.9 | 85.9 | 87.0 | 93.5 | 88.1 | 83.3 | 166.6 |
| 160 | 75.3 | 75.5 | 77.0 | 76.4 | 78.8 | 79.0 | 80.0 | 80.9 | 85.9 | 87.0 | 93.5 | 88.1 | 83.3 | 166.6 |
| 200 | 74.5 | 79.7 | 80.2 | 78.8 | 80.4 | 80.2 | 81.4 | 81.9 | 85.8 | 87.2 | 91.0 | 86.4 | 81.9 | 165.6 |
| 250 | 75.8 | 77.3 | 78.8 | 78.9 | 79.3 | 80.2 | 80.2 | 82.5 | 85.6 | 86.9 | 89.0 | 84.0 | 80.4 | 164.6 |
| 315 | 76.0 | 77.4 | 78.8 | 77.9 | 79.3 | 80.0 | 80.6 | 83.0 | 86.0 | 88.1 | 92.3 | 79.0 | 164.4 | |
| 400 | 76.4 | 77.9 | 78.8 | 78.2 | 79.6 | 80.6 | 81.6 | 82.6 | 85.5 | 85.4 | 80.3 | 77.4 | 163.7 | |
| 500 | 76.3 | 77.9 | 78.7 | 78.2 | 79.6 | 80.6 | 81.0 | 83.0 | 85.2 | 84.5 | 84.6 | 78.6 | 75.7 | 163.6 |
| 630 | 75.9 | 77.1 | 78.7 | 79.1 | 79.7 | 80.5 | 81.5 | 82.8 | 85.8 | 83.3 | 83.0 | 77.2 | 74.4 | 163.7 |
| 800 | 75.8 | 78.4 | 80.1 | 78.3 | 80.8 | 80.3 | 81.9 | 83.1 | 84.6 | 82.5 | 81.2 | 75.3 | 72.0 | 163.6 |
| 1000 | 75.8 | 78.8 | 80.6 | 79.6 | 81.1 | 80.7 | 81.4 | 82.7 | 85.5 | 84.1 | 81.2 | 76.2 | 72.1 | 164.9 |
| 1250 | 74.7 | 79.5 | 81.2 | 80.8 | 84.0 | 82.6 | 82.7 | 82.6 | 85.9 | 83.6 | 80.9 | 76.2 | 71.8 | 166.2 |
| 1500 | 76.1 | 80.1 | 82.5 | 82.5 | 83.8 | 82.7 | 81.7 | 82.7 | 84.2 | 81.3 | 79.1 | 73.8 | 68.1 | 166.8 |
| 2000 | 75.7 | 78.6 | 82.6 | 81.5 | 82.9 | 81.3 | 81.3 | 81.2 | 81.8 | 77.7 | 76.3 | 70.1 | 63.2 | 167.0 |
| 2500 | 70.8 | 75.8 | 79.3 | 79.4 | 80.9 | 80.1 | 79.9 | 78.9 | 80.6 | 75.9 | 72.6 | 67.4 | 56.6 | 167.5 |
| 3150 | 64.7 | 70.7 | 74.4 | 75.6 | 79.0 | 78.6 | 77.8 | 75.4 | 75.4 | 70.3 | 66.5 | 59.1 | 44.6 | 167.7 |
| 4000 | 54.8 | 63.1 | 68.6 | 69.4 | 70.8 | 71.2 | 70.2 | 67.9 | 69.6 | 63.4 | 58.8 | 47.8 | 27.8 | 167.6 |
| 5000 | 40.3 | 51.5 | 57.5 | 59.1 | 64.3 | 63.6 | 62.6 | 60.5 | 60.7 | 53.2 | 45.5 | 30.7 | 2.3 | 168.5 |
| 6300 | 18.4 | 33.5 | 42.6 | 45.3 | 50.6 | 48.9 | 45.8 | 45.5 | 35.7 | 23.2 | 0.6 | | | 169.2 |
| 8000 | | | | | | | | | | | | | | 170.9 |

ORIGINAL PAGE 18
OF POOR QUALITY

MODEL AREA = 128.3 SQ CM (19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

OASPL 87.2 89.9 91.8 91.2 92.9 92.5 93.1 94.1 97.1 98.3 102.7 98.7 93.4 180.9
 PNL 95.9 99.1 102.1 101.5 103.2 102.8 102.9 102.9 105.1 103.5 104.8 100.0 94.6
 PNL 95.9 99.7 102.8 102.1 103.7 102.8 103.4 102.9 105.1 103.5 105.9 101.4 94.6
 DBA 84.8 88.1 90.5 90.0 91.9 91.1 91.2 91.8 94.0 92.1 91.9 86.7 82.6

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514
 VEHICL = ADH159 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 400. FPS
 IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMR F = 82.00 PAMB HG = 29.40 RELHUM = 65.5 PCT
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBRF =
 FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2395.0 FPS AEB = 19.9 SQ IN
 FNRAMB = LBS XNLR RPM V18 = 2395.0 FPS AE18 = 0. SQ IN
 RU 82F-400-0612 TAPE = X06121 TEST PT NO = 061 NC = AEO48 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0613 X0613C

BACKGROUND 82F-400-0600

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 81.3 83.6 85.1 80.6 80.2 79.8 84.5 86.4 85.1 85.2 94.3 93.5 90.1 129.1

63 84.5 90.7 92.8 89.6 89.1 88.0 95.9 93.8 90.0 89.3 100.0 94.9 94.3 135.7

80 86.7 92.0 89.0 89.0 89.1 91.2 91.8 91.7 90.6 94.9 97.1 98.0 134.1

100 88.0 94.2 90.3 91.1 92.4 92.5 93.1 94.8 93.0 94.6 98.0 101.7 103.1 137.4

125 84.6 88.9 90.9 91.2 93.0 93.9 94.5 94.7 94.2 96.5 102.6 105.3 106.7 140.0

150 84.8 83.8 88.8 87.6 89.4 89.6 96.7 91.8 93.1 97.9 104.0 106.9 109.1 141.2

200 86.6 85.6 87.9 87.9 90.5 92.6 94.3 94.7 98.4 100.0 105.3 109.5 111.2 143.3

250 86.5 89.6 90.1 90.9 91.0 92.1 94.5 97.6 98.3 105.4 111.0 114.0 113.9 147.2

315 85.3 89.1 90.1 89.9 92.5 94.1 96.5 97.1 101.1 107.9 112.3 115.2 115.1 148.6

400 86.6 89.9 90.9 90.5 93.1 93.7 100.8 98.2 102.4 111.3 114.6 116.6 115.0 150.2

500 88.0 90.2 91.0 92.0 93.4 94.5 96.1 99.5 103.3 112.8 116.7 116.9 115.0 151.2

630 88.5 90.8 92.8 94.8 94.4 96.1 97.7 100.6 104.1 115.6 118.0 118.9 115.9 152.7

800 92.9 93.2 94.7 94.7 96.1 97.7 98.8 103.0 107.0 116.5 119.7 118.1 116.0 153.7

1000 97.8 98.6 98.8 97.4 98.2 98.6 100.5 103.6 107.6 115.9 119.5 119.2 115.4 153.8

1250 95.8 102.1 102.3 101.9 101.7 102.1 101.7 104.4 108.1 114.9 119.8 118.2 115.5 153.7

1600 95.4 96.3 98.4 98.7 100.6 101.9 102.8 105.3 108.7 113.5 117.3 114.1 115.3 153.2

2500 96.8 98.6 99.7 98.4 99.3 100.6 102.1 105.4 108.1 113.3 116.4 113.9 110.2 150.8

3150 96.1 97.7 98.2 97.8 99.1 100.7 102.8 105.8 108.6 111.9 112.9 109.8 109.8 150.3

4000 94.5 95.7 97.8 97.1 98.6 100.1 101.5 105.3 107.7 110.9 112.9 110.7 108.7 148.6

5000 95.1 97.3 98.2 97.5 98.4 100.1 101.8 105.1 107.6 110.2 112.5 109.5 106.5 148.2

6300 93.5 96.3 98.1 97.9 99.3 99.7 101.0 104.7 106.7 108.1 110.9 108.4 105.7 147.3

8000 92.2 96.0 97.2 97.5 98.0 99.3 100.7 103.8 105.6 107.4 108.6 106.1 103.7 146.3

10000 93.0 96.2 97.7 97.5 98.7 100.2 101.2 103.7 105.3 106.9 108.1 106.6 103.3 146.7

12500 93.5 96.7 99.5 98.7 98.5 100.2 99.8 102.5 103.8 105.0 106.0 104.8 102.0 146.3

16000 90.2 94.9 97.1 97.4 99.5 99.2 100.4 101.7 102.6 104.5 103.3 99.5 146.0

20000 87.9 91.7 94.3 95.0 97.1 98.1 98.2 98.5 99.4 99.8 100.8 97.9 145.8

25000 85.3 89.5 92.5 93.3 95.1 96.7 96.9 96.5 97.7 98.6 100.2 96.9 146.3

31500 79.5 84.7 87.2 87.8 90.5 92.3 91.8 92.5 93.5 95.2 97.4 94.7 145.3

40000 76.4 82.5 85.0 85.5 88.9 90.0 89.8 89.5 91.5 92.6 93.5 92.6 147.5

63000 69.6 75.4 79.0 82.9 86.6 86.4 86.6 86.9 89.3 92.6 94.5 91.0 149.9

80000 63.6 70.5 74.6 74.6 77.4 80.3 77.7 78.6 82.5 87.0 90.7 84.0 156.0

GASPL 107.0 109.7 110.6 110.4 111.5 112.6 114.0 116.6 119.3 125.1 128.9 128.0 125.9 165.0

PMLT 120.8 123.3 124.0 123.5 123.4 124.7 127.4 129.4 132.1 136.6 140.3 138.5 136.1

DBA 106.7 109.0 110.0 109.5 110.5 111.7 113.1 116.2 119.1 124.7 128.7 127.1 124.4

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH149 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLVEL = 0. FPS

1APLHA = SB59 LEGA = NO PML AREA = FULL SPHERE EXT DIST = 40.0 FT TAMB F = 79.00 MIKE HT = 29.45 RELHUM = 47.2 PCT

WIND DIR = DEG WIND VEL = MPH

FNINI LBS XNLR RPM XNH RPM V8 = 2409.7 FPS AE8 = 19.9 SQ IN

FNRAMB = LBS XNLR RPM XNHR RPM V18 = 2409.7 FPS AE18 = 0. SQ IN

RUNPT = 82F-ZER-0613 TAPE = X0613C TEST PT NO = 0613 NC = AE048 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0613 X0613F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 81.3 83.6 85.1 80.6 80.2 79.8 84.5 86.4 85.1 85.2 94.3 93.5 90.1 129.1

63 84.5 86.8 89.6 89.1 88.0 95.9 93.8 91.7 90.6 94.9 97.1 98.0 134.1

80 86.7 92.0 89.0 89.1 91.2 91.1 91.3 91.7 90.6 94.9 97.1 98.0 134.1

100 88.0 94.2 90.3 91.1 92.4 92.5 93.1 94.8 93.0 94.6 98.0 101.7 137.4

125 84.6 88.9 90.9 91.2 93.0 93.9 94.5 94.7 94.2 96.5 102.6 105.3 140.0

150 84.8 83.8 87.6 87.6 89.4 89.6 96.7 91.8 93.1 97.9 104.0 106.9 141.2

200 86.6 86.6 87.9 87.9 90.5 92.6 94.3 94.7 98.4 100.0 105.3 109.5 143.3

250 86.5 89.6 90.1 90.9 91.0 92.1 94.5 97.6 98.3 105.4 111.0 114.0 147.2

315 85.3 89.1 90.1 89.9 92.5 94.1 96.5 97.1 101.1 107.9 112.3 115.1 148.6

400 86.6 89.9 90.9 90.5 93.1 93.7 100.8 98.2 102.4 111.3 114.6 116.6 150.2

500 88.0 90.2 91.0 92.0 93.4 94.5 96.1 99.5 103.3 112.8 116.7 116.9 151.2

630 88.5 90.8 92.8 92.9 94.4 96.1 97.7 100.6 104.1 115.6 118.0 115.9 152.7

800 92.9 93.2 94.7 96.1 97.7 98.8 103.0 107.0 116.5 119.7 118.1 116.0 153.7

1000 97.8 98.6 98.8 97.4 98.2 98.6 100.5 103.6 107.6 115.9 119.5 119.2 153.8

1250 95.8 102.1 102.3 101.9 101.7 102.1 101.7 104.4 108.1 114.9 119.8 118.2 115.5 153.7

1600 95.4 96.3 98.4 98.7 100.6 101.9 102.8 105.8 108.7 113.5 119.9 117.3 114.1 153.2

2000 96.0 97.4 98.6 97.7 98.6 100.0 102.4 105.7 108.4 113.1 118.4 115.7 113.0 152.1

2500 96.8 98.6 99.7 98.4 99.3 100.6 102.1 105.4 108.1 113.3 116.4 113.9 110.2 150.8

3150 96.1 97.8 98.2 97.8 99.1 100.7 102.8 105.8 108.6 111.9 115.9 112.6 109.8 150.3

4000 94.5 95.7 97.1 98.6 100.1 101.5 103.3 107.7 110.9 112.5 109.5 106.5 148.6

5000 95.1 97.3 98.2 97.5 98.4 100.1 101.8 105.1 107.6 110.2 112.5 109.5 148.2

6300 93.5 96.3 98.1 97.9 99.3 99.7 101.0 104.7 106.7 108.1 110.9 108.4 147.3

8000 92.2 98.0 97.1 97.2 98.0 99.3 100.7 103.8 107.4 108.6 106.1 103.7 146.3

10000 93.0 96.2 97.7 97.5 98.7 100.2 101.2 103.7 105.8 107.4 105.8 103.7 146.3

12500 93.5 96.7 99.5 98.7 98.5 100.2 99.8 102.5 103.6 105.0 106.0 104.8 146.3

15000 90.2 94.9 97.1 97.4 99.5 99.2 100.4 101.7 102.6 104.5 103.3 99.5 146.0

20000 87.9 94.3 95.0 97.1 98.1 98.2 98.5 99.5 99.8 99.8 100.8 97.9 145.8

25000 85.3 89.5 92.5 93.3 95.1 96.7 96.9 96.5 97.7 98.8 100.2 98.9 146.3

31500 79.5 84.7 87.2 87.8 90.5 92.3 91.8 92.5 93.5 95.2 97.4 94.7 145.3

40000 76.4 82.5 85.0 85.5 88.9 90.0 89.9 89.8 91.5 93.5 92.6 86.2 147.5

50000 73.4 79.0 82.9 82.9 86.6 86.4 86.8 86.9 89.3 92.6 94.5 91.0 149.9

63000 69.6 75.4 79.4 79.2 83.2 84.6 82.6 84.6 87.6 90.9 92.9 88.3 152.9

80000 63.6 70.5 74.6 74.6 77.4 77.7 78.6 78.6 82.5 87.0 90.7 84.0 156.0

DBA 185.4 192.0 196.0 196.0 199.1 201.6 199.2 200.3 203.9 208.1 211.4 205.3 194.6

PWL 120.8 123.3 124.0 123.5 123.4 124.7 127.4 129.4 132.1 136.6 140.3 138.5 136.1

PWL 119.7 121.7 122.8 122.2 123.4 124.7 126.7 129.4 132.1 136.6 140.3 138.5 136.1

DBA 107.0 109.7 110.8 110.4 111.5 112.6 114.0 116.6 119.3 125.1 128.9 128.0 125.9 165.0

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514

VEHICLE = ADH149 TEST DATE = 06-25-82
IAPLHA = SB59 DEQ WIND VEL = NO
WIND DIR = DEQ WIND VEL = NO
FNRAMP = LBS XNL RPM XNHR RPM = C41 ANECH CH CONFIG = 6
PWL AREA = FULL SPHERE TAMB F = 79.00
EXT DIST = 40.0 FT EXT CONFIG = ARC
MIKE HT = 29.45 PAMB HG = AX
FLVEL = 0. FPS NBFR = 47.2 PCT

FININT = LBS XNL RPM XNHR RPM = 2409.7 FPS AEB AE18 = 19.9 SQ IN
FNRAMP = LBS XNL RPM XNHR RPM = 2409.7 FPS AEB AE18 = 19.9 SQ IN

TEST PT NO = 0617 NC = AE048 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0613 X06131

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

| | | | | | | | | | | | | | | |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 50 | 65.7 | 70.5 | 72.6 | 72.8 | 75.8 | 76.6 | 83.6 | 80.6 | 84.1 | 91.8 | 93.7 | 93.4 | 88.5 | 168.7 |
| 63 | 67.0 | 70.8 | 72.6 | 74.4 | 76.1 | 77.4 | 78.9 | 81.9 | 84.9 | 93.4 | 95.7 | 93.7 | 88.5 | 169.7 |
| 80 | 67.5 | 71.3 | 74.4 | 75.2 | 77.2 | 78.9 | 80.4 | 82.9 | 85.7 | 96.1 | 97.0 | 94.7 | 89.2 | 171.2 |
| 100 | 71.8 | 73.6 | 76.2 | 77.0 | 78.8 | 80.5 | 81.5 | 85.3 | 88.5 | 97.0 | 98.5 | 94.7 | 89.2 | 172.2 |
| 125 | 76.5 | 78.9 | 80.3 | 79.6 | 80.8 | 81.3 | 83.1 | 85.8 | 89.0 | 96.3 | 98.3 | 95.7 | 88.3 | 172.3 |
| 160 | 74.3 | 82.2 | 83.6 | 83.9 | 84.2 | 84.7 | 84.2 | 86.4 | 89.4 | 95.1 | 98.3 | 94.4 | 88.0 | 172.1 |
| 200 | 73.7 | 76.3 | 79.6 | 80.6 | 83.1 | 84.4 | 85.1 | 87.2 | 89.8 | 93.5 | 98.2 | 93.2 | 86.2 | 171.7 |
| 250 | 74.0 | 77.2 | 79.5 | 79.4 | 80.7 | 84.6 | 87.4 | 89.3 | 92.9 | 96.4 | 91.2 | 84.5 | 170.6 | |
| 315 | 74.4 | 77.9 | 80.2 | 79.8 | 81.1 | 82.6 | 83.9 | 86.8 | 88.6 | 92.7 | 93.9 | 88.8 | 80.8 | 169.3 |
| 400 | 73.2 | 76.7 | 78.5 | 78.8 | 80.6 | 82.4 | 84.3 | 86.8 | 88.8 | 90.9 | 93.0 | 86.9 | 79.5 | 168.7 |
| 500 | 71.1 | 74.2 | 77.7 | 77.8 | 79.9 | 81.5 | 82.8 | 86.1 | 87.6 | 89.5 | 89.5 | 84.3 | 77.4 | 167.1 |
| 630 | 71.2 | 75.5 | 77.8 | 78.0 | 79.4 | 81.3 | 82.8 | 85.6 | 87.1 | 88.3 | 88.6 | 82.5 | 74.2 | 166.7 |
| 800 | 69.1 | 74.1 | 77.4 | 78.1 | 80.0 | 80.7 | 81.8 | 84.9 | 86.0 | 85.9 | 86.5 | 80.7 | 72.1 | 165.7 |
| 1000 | 67.3 | 73.5 | 76.1 | 77.3 | 78.6 | 80.1 | 81.3 | 83.9 | 84.8 | 84.9 | 83.8 | 77.7 | 69.1 | 164.8 |
| 1250 | 67.6 | 73.4 | 76.5 | 77.3 | 79.2 | 80.9 | 81.7 | 83.5 | 84.1 | 84.1 | 82.8 | 77.3 | 67.2 | 165.2 |
| 1600 | 67.3 | 73.2 | 77.9 | 78.3 | 78.7 | 80.6 | 80.0 | 82.0 | 82.2 | 81.6 | 79.8 | 74.2 | 63.5 | 164.8 |
| 2000 | 63.0 | 70.9 | 75.1 | 76.7 | 79.5 | 79.0 | 79.7 | 79.7 | 78.6 | 77.3 | 71.0 | 58.0 | 164.5 | |
| 2500 | 58.9 | 66.4 | 71.4 | 73.7 | 76.5 | 77.8 | 77.6 | 77.2 | 76.6 | 74.6 | 73.9 | 65.7 | 51.5 | 164.2 |
| 3150 | 53.0 | 61.8 | 67.7 | 70.4 | 73.2 | 75.1 | 75.0 | 73.5 | 73.0 | 71.1 | 67.9 | 58.9 | 39.3 | 164.8 |
| 4000 | 41.0 | 52.3 | 58.6 | 61.6 | 65.6 | 67.9 | 67.0 | 66.3 | 64.9 | 62.7 | 58.8 | 45.7 | 19.3 | 163.8 |
| 5000 | 28.1 | 42.5 | 50.2 | 53.9 | 59.1 | 60.7 | 60.0 | 58.2 | 56.7 | 53.5 | 48.1 | 29.9 | | 166.0 |
| 6300 | 7.3 | 24.8 | 36.0 | 40.5 | 46.7 | 49.2 | 46.9 | 44.5 | 42.4 | 38.4 | 28.4 | 4.2 | | 168.4 |
| 8000 | | | | | | | | | | | | | | 171.4 |
| 10000 | | | | | | | | | | | | | | 174.5 |

ORIGINAL PAGE IS
OF POOR QUALITY

MODEL AREA = 128.3 SQ CM (19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514

VEHICL = ADH149 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 PML AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.45 MIKE HT = SL
IAPLHA = S859 LEGA = NO WIND DIR = DEG WIND VEL = MPH EXI DIST = 2400.0 FT EXI CONFIG = SL
FININI = LBS XNL RPM XNM XNHR = RPM V8 = 2409.7 FPS AE8 = 19.9 SQ IN FPS AE18 = 0. SO IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2409.7 FPS AE18 = 0. SO IN
RUNPT = 82F-ZER-0613 TAPE = X06131 TEST PT NO = 0613 NC = AEO48 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0614 X0614C
BACKGROUND 82F-400-0600 X06000

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 85.0 84.8 85.3 83.6 81.0 79.8 86.2 85.4 82.6 86.2 91.0 91.0 96.4 129.2

63 87.0 92.5 94.5 90.6 88.1 86.5 95.6 94.3 87.8 91.3 93.0 91.7 96.8 134.4

80 87.7 92.0 88.7 89.5 89.4 91.2 90.9 90.8 91.5 89.3 92.9 96.6 99.0 133.9

100 87.7 92.7 88.5 89.3 90.9 91.0 92.4 93.6 91.8 91.3 96.0 100.7 102.3 136.1

125 84.6 87.9 89.9 90.2 91.8 91.4 92.8 92.9 91.4 93.5 100.4 104.8 106.0 138.7

160 82.5 80.8 85.8 87.2 87.1 95.9 88.6 90.3 95.1 101.3 104.7 107.4 139.1

200 83.3 83.9 85.4 86.3 86.6 91.5 91.4 94.4 95.4 101.6 107.0 109.2 140.6

250 82.0 85.3 85.1 86.1 87.2 88.3 90.7 93.6 94.3 100.4 107.0 110.5 110.4 143.5

315 81.5 84.8 85.8 86.4 88.2 90.1 93.0 93.6 96.6 103.9 109.0 112.7 112.1 145.6

400 83.1 85.7 86.7 88.8 89.4 96.3 94.0 97.7 106.3 112.1 113.8 111.2 147.0

500 83.9 85.7 87.3 88.0 89.1 90.5 93.1 95.3 98.8 108.8 114.0 114.4 109.3 148.0

630 84.3 86.8 89.3 88.9 90.4 92.1 94.4 96.9 100.1 110.9 115.8 114.2 106.9 149.0

800 87.2 87.4 89.0 92.1 93.7 93.6 99.6 99.6 103.0 111.3 116.9 104.3 149.4

1000 91.0 90.6 91.9 91.6 93.5 94.3 96.7 99.9 103.9 110.7 117.1 111.2 101.6 149.2

1250 90.3 95.1 95.3 94.6 95.2 95.8 98.2 100.4 104.1 110.4 116.8 109.7 101.0 149.0

1600 90.4 91.3 93.2 93.5 96.1 97.4 99.5 101.3 105.0 109.0 115.7 107.8 100.8 148.0

2000 90.3 91.7 93.1 93.5 94.8 96.2 98.7 102.3 104.6 108.7 112.9 99.5 146.3

2500 92.1 93.3 94.2 93.4 95.0 97.1 99.1 102.4 104.6 109.3 111.1 103.7 97.2 145.6

3150 91.9 93.5 94.0 93.8 95.8 96.9 100.0 103.0 105.1 107.9 109.9 102.1 96.3 145.0

4000 92.2 93.8 94.0 95.6 97.3 98.7 102.5 104.2 106.6 107.1 101.2 95.2 143.7

5000 93.6 95.5 95.7 93.9 95.6 97.1 99.2 102.0 104.3 106.9 106.5 100.5 94.8 143.8

6300 93.1 95.7 96.8 96.0 96.7 96.9 99.2 102.1 103.6 105.5 104.5 98.3 93.8 143.2

8000 92.5 96.1 96.7 96.0 96.6 97.6 99.1 102.1 103.6 104.9 103.4 97.0 92.6 143.3

10000 95.0 97.9 98.7 98.4 99.2 99.7 101.9 103.6 104.0 105.6 103.1 98.1 93.1 144.5

12500 96.8 99.2 100.8 99.1 99.6 100.1 99.6 101.6 104.1 105.2 103.0 98.9 93.9 145.7

16000 93.3 97.1 97.8 98.0 99.3 99.0 99.1 100.5 102.5 102.3 101.5 97.6 92.9 145.4

20000 90.7 93.8 95.7 96.0 97.4 98.1 98.2 98.5 99.4 99.8 96.5 94.4 91.5 145.2

25000 88.3 91.7 94.3 96.3 97.3 97.8 97.1 98.5 98.1 96.5 96.1 91.5 88.4 146.1

31500 81.2 86.8 88.5 88.5 91.6 93.2 92.7 92.2 94.3 93.7 92.3 89.5 82.6 144.6

40000 78.4 83.6 85.6 85.3 89.3 90.4 90.3 89.6 91.2 90.4 90.1 86.2 79.4 145.8

50000 74.4 79.6 82.0 82.0 85.7 86.9 86.8 85.7 86.2 82.2 74.3 69.2 69.2 148.9

63000 69.8 75.2 78.0 77.8 81.3 83.2 82.7 83.5 85.7 85.6 82.9 77.5 69.2 148.8

80000 64.5 70.9 74.4 74.4 76.8 78.5 77.3 78.4 82.1 83.9 78.2 70.4 60.9 151.8

OASPL 105.0 107.7 108.6 108.0 109.3 110.2 111.8 113.9 116.2 120.9 125.4 122.6 119.3 161.2

PWL 116.5 119.5 119.2 118.7 120.2 121.4 124.6 126.5 128.6 132.6 135.7 131.0 127.0

DBA 103.1 105.1 105.9 105.5 106.9 108.1 110.2 113.1 115.6 120.3 124.9 120.2 114.5

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICLE = ADH160 TEST DATE = 06-25-82 LOCAL = CAT ANECH CH CONFIG = 6 MODEL = AX FLITEL = 400. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 82.00 PAMB HG = 29.30 RELHUM = 65.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL RPM XNH RPM XNHR = RPM V8 = 2413.9 FPS AE8 = 19.9 SQ IN
FNANB = LBS XNLR RPM = RPM V18 = FPS AE18 = 0. SQ IN
IPT = 82F-400-0614 TAPE = X0614C TEST PT NO = 0614 NC = AE048 CORR FAN SPEED = RPM

ORIGINAL PAGE 12
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0614 X0614F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

FREQ
50
63
80
100
125
160

250 69.2 91.3 89.7 89.2 88.7 88.3 88.8 90.0 93.1 99.5 104.1 108.3 109.5 141.8
315 89.2 91.3 89.7 89.2 89.0 90.3 91.6 90.8 94.4 102.2 107.7 110.1 110.1 143.6
400 89.2 91.2 90.8 89.8 90.7 89.7 95.0 91.2 96.7 106.0 110.8 112.4 110.7 145.9
500 90.8 92.1 91.6 90.1 91.0 90.8 92.4 93.4 98.9 109.4 114.5 114.8 112.0 148.7
630 91.6 92.1 92.2 91.5 92.4 92.5 93.8 95.3 101.8 110.0 116.1 114.6 112.3 149.5
800 91.9 92.4 94.3 92.4 94.2 94.9 97.5 103.0 109.7 116.8 114.5 112.2 149.9
1000 94.8 93.9 94.8 93.6 95.4 95.0 96.1 98.1 103.3 109.5 116.6 113.0 111.7 149.4
1250 97.2 96.0 96.3 94.8 97.3 96.6 97.7 98.7 104.6 108.6 115.9 111.6 111.9 148.9
1600 96.5 100.6 99.8 97.9 98.5 98.5 99.3 100.0 104.7 108.7 113.7 110.0 111.0 147.8
2000 98.0 97.8 98.5 97.4 97.5 97.5 98.8 101.3 104.6 109.3 111.8 107.9 108.9 146.7
2500 98.0 98.3 98.5 97.5 97.9 98.8 99.4 101.6 105.6 108.4 111.2 106.9 108.7 146.5
3150 99.6 99.9 99.6 97.6 99.1 98.9 100.8 102.6 105.5 107.8 108.9 106.4 107.8 146.0
4000 99.5 100.1 99.5 98.1 99.3 100.1 102.8 105.3 107.0 106.2 105.7 107.3 145.9
5000 99.8 99.9 99.5 98.7 99.6 100.1 100.8 102.4 105.3 107.0 106.7 103.9 106.8 145.4
6300 100.3 101.8 101.2 98.6 100.7 99.9 101.2 102.8 105.5 106.5 105.7 102.7 105.8 145.6
8000 100.3 102.2 102.4 100.7 100.6 100.6 101.2 102.9 106.2 107.5 105.7 104.1 106.6 146.7
10000 100.3 102.5 102.6 100.6 100.6 100.6 101.2 102.9 106.2 107.5 105.7 104.1 106.6 146.7
12500 101.7 103.9 103.9 101.9 103.5 103.1 101.8 102.8 106.5 106.1 105.8 107.4 148.7
16000 102.4 104.3 105.1 102.6 103.4 102.0 101.5 102.1 104.4 103.5 104.0 103.1 105.3 149.2
20000 96.1 98.4 99.4 98.8 100.9 100.7 100.3 99.0 100.2 99.5 98.7 99.3 99.5 149.5
25000 96.1 98.4 99.4 98.8 100.9 100.7 100.3 99.0 100.2 99.5 98.7 99.3 99.5 149.5
30000 95.7 97.8 98.9 96.7 96.2 95.1 93.9 97.9 97.0 97.4 96.9 97.3 149.9
40000 87.7 92.0 92.3 90.7 93.9 93.4 92.7 91.3 94.6 94.3 93.5 93.0 92.8 149.9
50000 84.5 88.5 89.0 87.2 90.3 90.2 89.3 87.9 92.0 91.4 89.0 86.5 85.2 150.8
63000 79.5 83.5 85.0 82.9 85.9 86.2 84.5 83.9 89.9 91.1 85.7 80.9 78.3 152.9
80000 73.5 77.6 78.9 77.2 81.4 81.5 79.1 78.8 80.1 81.3 75.9 71.1 68.5 152.7

GASPL 111.4 113.1 113.1 111.5 112.6 112.3 112.6 113.7 117.4 120.7 125.0 123.1 122.6 162.9
PNL 122.2 123.0 122.7 121.3 122.4 122.6 123.5 125.2 128.7 131.9 134.7 132.0 132.9
PNLT 122.2 124.2 122.7 121.3 122.4 122.6 124.0 125.2 128.7 131.9 134.7 132.0 132.9
DBA 195.4 199.5 200.8 199.0 202.8 202.9 200.8 200.3 203.4 204.5 199.4 195.1 192.9

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADHI60 TEST DATE = 06-25-82
IAPLHA = SB59
WIND DIR = DEG WIND VEL = MPH
LOCAL = C41 ANECH CH CONFIG = 6
TAMB F = FULL SPHERE
EXT DIST = 40.0 FT
EXT CONFIG = ARC
MIKE HT = 29.30
PAMB HG = 29.30
RELHUM = 65.5 PCT
FLTVEL = 400. FPS
MODEL = AX
NBRFR =
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2413.9 FPS AE8 = 19.9 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2413.9 FPS AE8 = 19.9 SQ IN
RUNPT = 82F-400-0614 TAPE = X0614F TEST PT NO = 0614 NC = AE048 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0614 X06141

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|-------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 50 | 68.2 | 71.8 | 72.4 | 72.1 | 73.4 | 72.6 | 77.8 | 73.6 | 78.9 | 86.5 | 89.9 | 89.3 | 84.2 |
| 63 | 69.8 | 72.6 | 73.3 | 72.5 | 73.8 | 73.7 | 75.1 | 75.7 | 80.5 | 89.9 | 93.5 | 91.6 | 85.5 |
| 80 | 70.6 | 72.6 | 73.8 | 75.1 | 75.3 | 76.5 | 77.6 | 83.4 | 90.5 | 95.1 | 91.3 | 85.4 | 168.0 |
| 100 | 70.8 | 73.7 | 75.9 | 74.6 | 76.8 | 77.0 | 77.6 | 84.6 | 90.2 | 95.7 | 91.1 | 85.4 | 168.4 |
| 125 | 73.6 | 74.2 | 76.2 | 75.8 | 78.0 | 77.7 | 78.7 | 80.3 | 84.8 | 89.8 | 95.4 | 84.6 | 167.9 |
| 160 | 75.8 | 76.2 | 77.6 | 76.9 | 79.8 | 80.2 | 80.7 | 85.9 | 88.7 | 94.5 | 87.8 | 84.5 | 167.4 |
| 200 | 74.8 | 80.5 | 81.0 | 79.8 | 80.9 | 81.6 | 81.9 | 85.8 | 88.6 | 92.0 | 85.9 | 83.2 | 166.3 |
| 250 | 76.0 | 77.5 | 79.3 | 79.0 | 79.6 | 80.9 | 80.9 | 85.5 | 89.0 | 89.8 | 83.4 | 80.4 | 165.2 |
| 315 | 75.5 | 77.6 | 79.1 | 78.9 | 79.8 | 81.2 | 81.2 | 87.8 | 88.8 | 81.8 | 79.3 | 165.0 | |
| 400 | 76.7 | 78.9 | 79.8 | 78.7 | 80.6 | 80.6 | 82.3 | 83.7 | 86.7 | 86.0 | 80.7 | 77.5 | 164.4 |
| 500 | 76.1 | 78.7 | 79.5 | 78.9 | 80.6 | 81.3 | 81.3 | 83.6 | 85.4 | 86.5 | 79.3 | 76.0 | 164.4 |
| 630 | 75.9 | 78.1 | 79.2 | 80.6 | 81.2 | 81.8 | 81.8 | 82.8 | 84.9 | 85.2 | 76.9 | 74.4 | 163.9 |
| 800 | 75.9 | 79.6 | 80.5 | 78.8 | 81.5 | 80.8 | 82.0 | 83.0 | 84.7 | 84.3 | 74.9 | 72.3 | 164.1 |
| 1000 | 75.5 | 79.7 | 81.4 | 80.7 | 81.2 | 81.4 | 81.8 | 83.0 | 85.2 | 85.0 | 80.9 | 75.7 | 165.1 |
| 1250 | 74.3 | 79.6 | 81.0 | 80.4 | 82.9 | 82.9 | 82.3 | 82.6 | 85.8 | 85.1 | 81.0 | 76.3 | 166.3 |
| 1600 | 75.5 | 80.5 | 82.2 | 81.4 | 83.7 | 83.5 | 82.1 | 82.3 | 84.9 | 82.6 | 79.6 | 74.5 | 167.2 |
| 2000 | 75.2 | 80.2 | 83.1 | 81.9 | 83.4 | 82.3 | 81.6 | 81.4 | 82.5 | 79.4 | 76.8 | 70.9 | 167.7 |
| 2500 | 70.3 | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 80.1 | 79.0 | 81.0 | 78.0 | 73.1 | 67.8 | 168.0 |
| 3150 | 63.7 | 70.7 | 74.7 | 75.8 | 79.0 | 79.1 | 78.4 | 76.0 | 75.4 | 71.8 | 66.4 | 59.3 | 168.0 |
| 4000 | 57.1 | 65.4 | 70.3 | 70.6 | 71.3 | 71.7 | 70.2 | 67.7 | 69.3 | 64.5 | 58.9 | 47.9 | 168.4 |
| 5000 | 39.3 | 52.0 | 57.5 | 59.1 | 64.0 | 64.1 | 62.8 | 59.7 | 59.8 | 54.3 | 45.1 | 30.3 | 168.4 |
| 6300 | 18.4 | 34.3 | 42.1 | 44.8 | 50.4 | 51.1 | 49.3 | 45.5 | 45.1 | 37.2 | 22.9 | 169.2 | |
| 8000 | | | | | | | | | | | | | 171.3 |
| 10000 | | | | | | | | | | | | | 171.2 |

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OF POOR QUALITY

| | | | | | | | | | | | | | | |
|---|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|
| OASPL | 87.1 | 90.6 | 92.1 | 91.5 | 93.2 | 93.1 | 93.4 | 94.2 | 97.2 | 100.0 | 103.2 | 98.8 | 93.9 | 181.3 |
| PNLT | 95.6 | 100.2 | 102.6 | 101.9 | 103.6 | 103.4 | 103.2 | 103.1 | 105.3 | 105.0 | 105.3 | 99.9 | 96.3 | |
| DBA | 84.5 | 88.9 | 90.8 | 90.2 | 91.9 | 91.8 | 91.5 | 91.9 | 94.1 | 93.7 | 92.3 | 86.6 | 82.9 | |
| MODEL AREA = 128.3 SQ CM (19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9 | | | | | | | | | | | | | | |

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH160 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMF = 82.00 PAMB HG = 29.30 RELHUM = 65.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =
FNINI = LBS XNL RPM XNH RPM V8 = 2413.9 FPS AER = 19.9 SQ IN
FNRAMB = LBS XNLR RPM XNHR RPM V18 = 2413.9 FPS AE18 = 0. SQ IN
RU 82F-400-0614 TAPE = X06141 TEST PT NO = 061 NC = AEO48 CORR FAN SPEED = RPM

DATPRGC - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARCIDENTIFICATION - MODEL 82F-ZER-0615 X0615C
BACKGROUND 82F-400-0600

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 82.0 84.3 82.8 80.9 81.0 80.6 84.7 86.1 86.1 86.4 93.5 94.0 90.9 129.2

63 87.7 90.7 92.3 89.6 87.8 95.9 93.3 92.8 92.3 93.6 99.0 98.2 93.6 135.7

80 87.4 92.5 89.0 89.3 89.0 91.6 91.5 92.2 90.6 94.4 98.1 99.0 134.6

100 88.0 94.7 90.3 91.3 92.6 92.8 93.6 95.1 93.3 95.8 98.7 102.4 103.6 137.9

125 84.9 89.1 91.2 91.7 93.3 93.9 95.0 95.4 94.4 97.2 103.1 106.0 107.0 140.4

160 84.8 89.6 88.1 89.2 89.8 96.7 92.1 93.6 98.6 104.3 107.2 109.6 141.6

200 86.6 86.1 86.4 91.0 92.9 95.3 94.4 98.1 99.7 105.6 109.8 111.9 143.6

250 86.8 89.8 90.6 91.0 92.1 94.5 97.6 98.8 105.4 111.0 114.2 114.1 147.4

315 85.5 89.6 90.1 90.1 92.7 94.3 96.5 97.1 101.3 107.9 112.8 115.6 148.8

400 86.9 90.4 91.2 90.5 93.3 93.7 101.3 98.2 102.7 111.3 115.1 117.1 150.6

500 88.0 90.7 91.0 92.3 93.6 95.5 96.4 99.8 104.0 113.1 117.0 117.6 151.7

630 89.0 93.1 93.4 94.7 96.6 98.4 101.1 104.8 115.4 118.3 118.5 119.9 154.1

800 93.2 93.9 95.2 94.5 96.3 97.7 98.8 103.5 106.7 116.3 120.2 118.6 154.0

1000 98.0 99.3 98.6 97.9 97.7 99.1 100.2 103.9 107.6 115.9 119.5 119.0 153.9

1250 96.5 102.3 102.1 101.9 101.7 102.1 102.2 104.6 108.6 115.6 119.8 119.4 154.2

1500 96.4 97.3 98.9 99.0 100.6 101.4 103.3 108.7 114.5 119.6 114.6 115.3 153.4

2000 96.8 98.2 98.9 97.7 98.8 100.0 102.4 105.7 108.9 113.9 118.2 115.7 152.1

2500 97.3 98.8 99.9 98.7 99.8 100.6 101.8 106.2 108.3 114.1 116.9 113.9 151.3

3150 96.1 98.0 98.7 98.0 99.1 101.2 103.0 106.3 108.6 112.4 116.2 109.6 150.5

4000 94.5 96.2 97.5 97.3 98.6 99.9 101.5 105.6 107.7 110.9 113.6 111.2 148.9

5000 94.6 97.1 97.7 97.0 98.4 100.1 102.0 105.1 107.8 110.7 112.5 110.0 148.4

6300 93.7 96.3 97.6 97.6 98.5 99.2 101.5 104.7 107.2 108.8 111.4 108.2 147.6

8000 92.7 96.3 97.0 97.3 97.8 99.8 100.7 103.8 105.5 107.6 109.4 106.1 146.5

10000 94.2 97.7 98.5 97.2 98.7 99.5 101.0 103.7 105.1 107.4 107.9 103.8 146.7

12500 94.5 96.9 100.2 99.2 98.8 99.7 99.8 102.7 103.6 105.5 106.7 104.5 146.5

15000 91.2 95.6 97.3 97.9 99.2 99.0 100.4 101.5 103.1 104.5 102.5 100.0 146.1

20000 91.9 94.5 97.1 98.6 97.9 98.0 98.9 99.3 102.6 100.8 98.6 145.6

25000 86.3 90.0 93.2 92.6 95.4 96.7 96.6 95.7 96.5 98.8 101.0 98.4 146.2

31500 80.0 85.2 87.0 87.8 91.0 92.6 91.8 91.5 93.2 95.2 97.4 94.9 145.3

40000 77.7 82.5 85.0 86.7 90.3 89.6 89.6 89.6 90.1 92.0 93.5 91.7 147.5

50000 74.7 79.7 82.4 82.7 86.4 87.9 86.7 86.7 87.1 91.8 93.1 90.5 150.5

63000 70.1 76.4 79.5 83.0 84.6 82.6 84.1 81.6 91.2 94.1 87.8 79.7 154.0

80000 64.1 71.3 74.8 75.1 77.9 80.0 77.7 79.6 90.0 87.5 91.7 84.8 157.9

CASPL 107.4 110.1 111.0 110.5 111.6 112.6 114.2 116.8 119.4 125.4 129.1 128.4 126.6 165.5

PML 121.0 123.5 123.5 124.9 127.7 129.7 132.2 137.1 140.5 138.8 136.4

DBA 107.1 109.5 110.1 109.6 110.5 111.6 113.3 116.4 119.3 125.1 128.8 127.6 125.1

NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514

VEHICL = ADH150 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.45 RELHUM = 47.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2422.7 FPS AE8 = 19.9 SQ IN
FNRAMB = LBS XNLR = RPM V18 = 2422.7 FPS AE18 = 0. SQ IN

RUNPT = 82F-ZER-0615 TAPE = X0615C TEST PT NO = 0615 NC = AE048 CORR FAN SPEED = RPM

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OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0615 X0615F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 82.0 84.3 82.8 80.9 81.0 80.6 84.7 86.1 86.4 93.5 94.0 90.9 129.2

63 85.7 90.7 92.3 89.3 89.6 87.8 95.9 93.3 92.8 92.3 99.0 99.2 93.6 135.7

80 87.4 92.5 89.0 89.3 89.6 92.0 91.6 91.5 92.2 90.6 94.4 98.1 99.0 134.6

100 88.0 94.7 90.3 91.3 92.6 92.8 93.6 95.1 93.3 95.8 98.7 102.4 103.6 137.9

125 84.9 89.1 91.7 93.3 93.9 95.4 94.4 97.2 103.1 106.0 107.0 140.4

150 84.8 84.8 89.6 88.1 89.2 89.8 96.7 92.1 93.6 98.6 104.3 107.2 109.6 141.6

200 86.6 86.1 88.4 91.0 92.9 95.3 94.4 98.1 99.7 105.6 109.8 111.9 143.6

250 86.8 89.8 90.6 90.6 91.0 92.1 94.5 97.6 98.6 105.4 111.0 114.2 147.4

315 85.5 89.6 90.1 90.1 92.7 94.3 96.5 97.1 101.3 107.9 112.8 115.2 148.8

400 86.9 90.4 91.2 90.5 93.3 93.7 101.3 98.2 102.7 111.3 115.1 117.1 150.6

500 88.0 90.7 91.0 92.3 93.6 95.5 96.4 99.8 104.0 113.1 117.0 117.6 151.7

630 88.0 91.1 93.3 93.4 94.7 96.6 98.4 101.1 104.8 115.4 118.3 118.5 153.0

800 93.2 93.9 95.2 94.5 96.3 97.7 98.8 103.5 106.7 116.3 120.2 118.6 154.1

1000 98.0 97.9 97.9 97.9 97.9 97.9 97.9 97.9 97.9 97.9 97.9 97.9 153.9

1250 96.5 102.3 102.1 101.9 101.7 102.2 102.6 108.6 115.6 119.8 119.4 116.2 154.2

1500 96.4 97.3 98.9 99.0 100.6 101.4 103.3 105.3 108.7 114.5 119.6 118.1 153.4

2000 96.8 97.7 98.8 98.9 98.7 98.8 100.6 101.8 106.2 108.3 114.1 116.9 151.3

2500 97.3 98.8 99.9 98.7 99.8 99.8 100.6 101.8 106.2 108.3 114.1 116.9 151.3

3150 96.1 98.0 98.7 98.0 99.1 99.1 101.2 103.0 106.3 108.6 112.4 116.2 150.5

4000 94.5 96.2 97.5 97.3 98.6 99.9 101.5 105.6 107.7 110.9 113.6 111.2 148.9

5000 94.6 97.1 97.7 97.0 98.4 100.1 102.0 107.8 110.7 112.5 110.0 106.8 148.4

6300 93.7 96.3 97.6 97.6 98.5 99.2 101.5 104.7 107.2 108.8 111.4 108.2 147.6

8000 92.7 96.3 97.3 97.0 97.7 99.8 100.7 103.8 105.5 107.6 109.4 106.1 146.5

10000 94.2 97.2 98.5 98.7 99.5 101.0 103.7 105.1 107.4 107.9 105.8 103.8 146.7

12500 94.5 96.9 98.2 99.2 98.8 99.7 99.8 102.7 103.6 105.5 106.7 104.5 146.5

15000 91.2 95.6 97.3 97.9 99.7 99.2 99.0 100.4 101.5 103.1 104.5 102.5 146.1

20000 89.2 91.9 94.5 94.8 97.1 98.6 97.9 98.0 98.9 99.3 102.6 100.8 145.6

25000 90.3 92.6 95.4 96.4 96.7 96.6 96.5 96.8 96.8 96.4 98.4 94.1 145.2

31500 80.0 85.2 87.0 87.8 91.0 92.6 91.8 91.5 93.2 95.2 97.4 94.9 145.3

40000 77.7 82.5 85.0 85.5 88.7 90.3 89.6 90.1 92.0 93.5 96.2 92.3 147.5

50000 70.1 79.7 82.4 82.7 86.4 87.9 86.6 86.7 91.8 93.1 95.3 83.1 150.5

63000 74.1 76.4 79.5 83.0 84.6 82.6 84.1 91.6 91.2 94.1 87.8 79.7 154.0

80000 64.1 71.3 74.8 75.1 77.9 80.0 77.7 79.6 90.0 87.5 91.7 84.8 157.9

GASPL 107.4 110.1 111.0 110.5 111.6 112.6 114.2 116.8 119.4 125.4 129.1 128.4 126.6 165.5

PWL 121.0 123.4 124.0 123.5 123.5 124.9 127.7 129.7 132.2 137.1 140.5 138.8 136.4

DBA 166.0 192.8 196.1 196.4 199.4 201.4 199.2 200.9 210.7 208.6 212.5 205.7 195.4

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH150 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.45 RELHUM = 47.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR

ENINI = LBS XNL RPM XNHR = RPM V8 = 2422.7 FPS AE8 = 19.9 SQ IN
NRAMB = LBS XNL RPM XNHR = RPM V8 = 2422.7 FPS AE8 = 19.9 SQ IN

PT = ZER-0615 TAPE = X0615F TEST PT NO = 0615 NC = AE048 CORR FAN SPEED = RPM

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DATPROC - - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - - 82F-ZER-0615 X06151

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50 | 65.0 | 71.0 | 72.8 | 76.1 | 76.6 | 84.1 | 80.6 | 84.3 | 91.8 | 94.2 | 93.9 | 89.0 | 169.1 |
| 63 | 67.0 | 71.3 | 72.6 | 74.6 | 76.4 | 79.4 | 82.1 | 85.6 | 93.4 | 96.0 | 94.4 | 89.5 | 170.2 |
| 80 | 68.0 | 71.6 | 74.9 | 75.7 | 77.4 | 79.4 | 81.2 | 83.4 | 86.4 | 95.9 | 97.2 | 90.2 | 171.5 |
| 100 | 72.0 | 74.4 | 76.7 | 76.8 | 79.0 | 80.5 | 81.5 | 85.8 | 88.2 | 96.7 | 99.0 | 95.2 | 172.6 |
| 125 | 76.8 | 79.7 | 80.0 | 80.1 | 80.3 | 81.8 | 82.8 | 86.7 | 89.0 | 96.3 | 98.3 | 89.6 | 172.4 |
| 160 | 75.1 | 82.5 | 83.4 | 83.9 | 84.2 | 84.7 | 84.7 | 86.7 | 89.9 | 95.8 | 98.3 | 88.8 | 172.7 |
| 200 | 74.7 | 77.3 | 80.1 | 80.9 | 82.9 | 83.9 | 85.6 | 87.2 | 89.8 | 94.5 | 98.0 | 86.7 | 171.9 |
| 250 | 74.8 | 77.9 | 79.8 | 81.0 | 82.6 | 84.6 | 87.4 | 89.8 | 93.6 | 96.2 | 91.2 | 84.2 | 170.6 |
| 315 | 74.9 | 78.2 | 80.5 | 80.1 | 81.6 | 82.6 | 83.7 | 87.6 | 88.9 | 93.5 | 94.4 | 88.8 | 169.8 |
| 400 | 73.2 | 76.9 | 79.0 | 79.1 | 80.6 | 82.9 | 84.6 | 87.3 | 88.8 | 91.4 | 93.3 | 86.9 | 169.0 |
| 500 | 71.1 | 74.7 | 77.5 | 78.1 | 79.9 | 81.3 | 82.8 | 86.3 | 87.6 | 89.5 | 90.2 | 84.8 | 167.3 |
| 630 | 70.7 | 75.3 | 77.3 | 77.5 | 79.4 | 81.3 | 83.0 | 85.6 | 87.4 | 88.8 | 83.0 | 74.4 | 166.9 |
| 800 | 69.3 | 74.1 | 76.9 | 77.8 | 79.3 | 80.2 | 82.3 | 84.9 | 86.5 | 86.6 | 87.0 | 80.4 | 166.0 |
| 1000 | 67.8 | 73.8 | 76.4 | 77.0 | 78.3 | 80.6 | 81.3 | 83.9 | 84.6 | 85.1 | 84.5 | 77.7 | 165.0 |
| 1250 | 68.9 | 74.9 | 77.3 | 77.1 | 79.2 | 80.1 | 81.4 | 83.5 | 83.9 | 84.6 | 82.5 | 76.6 | 165.1 |
| 1600 | 68.3 | 73.5 | 78.6 | 78.8 | 78.9 | 80.1 | 80.0 | 82.3 | 82.0 | 82.1 | 80.5 | 73.9 | 165.0 |
| 2000 | 64.0 | 71.6 | 75.3 | 77.2 | 79.7 | 79.5 | 79.0 | 79.7 | 79.5 | 79.1 | 77.3 | 70.3 | 164.6 |
| 2500 | 60.2 | 66.7 | 71.7 | 73.4 | 76.5 | 78.3 | 77.4 | 76.7 | 76.1 | 74.1 | 73.6 | 65.7 | 164.1 |
| 3150 | 54.0 | 62.3 | 68.5 | 69.6 | 73.5 | 75.1 | 74.7 | 72.8 | 71.7 | 71.1 | 68.7 | 58.4 | 164.7 |
| 4000 | 41.5 | 52.8 | 58.4 | 61.6 | 66.1 | 68.1 | 67.0 | 65.3 | 64.6 | 62.7 | 58.8 | 46.0 | 163.7 |
| 5000 | 29.4 | 42.5 | 50.2 | 53.9 | 58.8 | 61.0 | 59.8 | 58.5 | 57.2 | 53.5 | 47.9 | 29.7 | 166.0 |
| 6300 | 8.6 | 25.6 | 35.5 | 40.3 | 46.4 | 48.7 | 47.6 | 44.3 | 44.9 | 38.9 | 29.1 | 3.7 | 168.9 |
| 8000 | | | | | | | | | | | | | 172.5 |
| 10000 | | | | | | | | | | | | | 176.4 |

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NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514
VEHICL = ADH150 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 79.00 MIKE HT = SL
WIND DIR = DEG WIND VEL = MPH EXI DIST = 2400.0 FT EXI CONFIG = SL
FNN1 = LBS XNL = RPM XNHR = RPM V8 = 2422.7 FPS AE8 = 19.9 SO IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2422.7 FPS AE8 = 19.9 SO IN
RNP1 = 82F-ZER-0615 TAPE = X06151 TEST PT NO = 0615 NC = AE048 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0616 X0616C
BACKGROUND 82F-400-0600 X06000
ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

| | | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| 50 | 85.8 | 86.3 | 86.1 | 81.4 | 81.2 | 81.1 | 87.5 | 86.1 | 83.8 | 85.7 | 91.5 | 91.5 | 96.9 | 129.7 | PWL |
| 63 | 86.7 | 91.7 | 94.0 | 87.8 | 89.6 | 88.0 | 97.1 | 95.1 | 89.3 | 90.1 | 91.7 | 92.9 | 96.8 | 134.7 | |
| 80 | 87.4 | 92.5 | 89.0 | 89.8 | 90.1 | 92.0 | 91.6 | 91.3 | 91.7 | 92.8 | 93.4 | 96.6 | 98.5 | 134.2 | |
| 100 | 87.7 | 93.7 | 89.5 | 90.3 | 91.9 | 91.5 | 93.1 | 94.1 | 91.8 | 92.6 | 96.5 | 101.2 | 102.8 | 136.7 | |
| 125 | 84.9 | 88.1 | 89.9 | 90.4 | 91.8 | 92.2 | 93.5 | 93.4 | 92.2 | 93.7 | 100.6 | 104.8 | 106.2 | 138.9 | |
| 160 | 83.5 | 81.3 | 87.6 | 86.1 | 87.4 | 87.1 | 95.2 | 88.8 | 90.6 | 95.4 | 102.3 | 105.4 | 108.4 | 139.8 | |
| 200 | 83.3 | 84.1 | 85.6 | 84.7 | 86.5 | 88.4 | 92.0 | 91.7 | 94.4 | 95.7 | 101.6 | 107.3 | 109.7 | 140.9 | |
| 250 | 82.0 | 85.3 | 85.3 | 86.4 | 87.2 | 89.1 | 90.5 | 93.9 | 94.3 | 100.9 | 108.0 | 111.5 | 114.4 | 144.4 | |
| 315 | 82.0 | 85.1 | 86.3 | 86.6 | 88.7 | 90.1 | 92.7 | 93.6 | 96.8 | 104.1 | 109.5 | 112.5 | 112.1 | 145.6 | |
| 400 | 83.4 | 85.9 | 86.7 | 86.5 | 88.8 | 89.7 | 96.6 | 94.7 | 97.9 | 106.5 | 111.9 | 114.3 | 111.2 | 147.1 | |
| 500 | 84.2 | 86.0 | 88.3 | 89.4 | 91.0 | 92.9 | 95.5 | 99.8 | 99.8 | 109.3 | 114.5 | 114.4 | 110.0 | 148.3 | |
| 630 | 84.3 | 87.0 | 89.3 | 89.4 | 91.8 | 94.2 | 97.4 | 100.3 | 111.4 | 115.8 | 113.7 | 107.4 | 107.4 | 149.0 | |
| 800 | 87.2 | 87.7 | 90.2 | 90.3 | 92.1 | 93.5 | 95.6 | 99.0 | 103.0 | 117.2 | 112.8 | 104.5 | 104.5 | 149.7 | |
| 1000 | 91.0 | 90.6 | 91.6 | 93.5 | 94.3 | 97.0 | 100.1 | 103.9 | 111.7 | 117.3 | 112.2 | 102.1 | 102.1 | 149.7 | |
| 1250 | 90.5 | 95.1 | 94.6 | 95.5 | 96.6 | 97.7 | 100.6 | 104.8 | 110.9 | 116.8 | 110.5 | 102.7 | 102.7 | 149.2 | |
| 1600 | 91.4 | 91.0 | 93.5 | 93.7 | 96.3 | 97.4 | 99.8 | 101.8 | 105.5 | 109.8 | 116.2 | 108.8 | 100.3 | 148.5 | |
| 2000 | 92.3 | 92.5 | 93.6 | 93.5 | 95.1 | 96.2 | 99.1 | 102.3 | 109.7 | 113.7 | 106.5 | 99.8 | 147.0 | | |
| 2500 | 92.3 | 94.3 | 94.9 | 93.7 | 95.8 | 96.9 | 99.1 | 102.2 | 105.3 | 109.6 | 111.4 | 104.4 | 97.7 | 145.9 | |
| 3150 | 92.6 | 93.7 | 94.5 | 94.3 | 95.6 | 97.4 | 99.8 | 102.3 | 105.6 | 108.7 | 110.7 | 102.8 | 96.8 | 145.5 | |
| 4000 | 92.7 | 92.9 | 93.8 | 94.0 | 95.4 | 96.8 | 99.2 | 102.3 | 104.4 | 107.1 | 107.9 | 101.9 | 95.9 | 144.0 | |
| 5000 | 93.6 | 95.0 | 94.7 | 95.6 | 97.3 | 100.0 | 102.3 | 104.5 | 106.6 | 107.2 | 100.8 | 95.5 | 144.0 | | |
| 6300 | 93.1 | 95.4 | 95.8 | 94.8 | 96.2 | 96.7 | 99.7 | 102.9 | 104.6 | 106.0 | 105.8 | 99.6 | 94.1 | 143.8 | |
| 8000 | 92.8 | 95.1 | 93.7 | 96.1 | 96.3 | 97.6 | 99.3 | 101.7 | 104.1 | 104.9 | 104.2 | 97.5 | 93.1 | 143.4 | |
| 10000 | 96.2 | 98.7 | 98.4 | 96.9 | 97.7 | 99.0 | 100.2 | 101.9 | 104.3 | 105.9 | 103.8 | 98.6 | 93.4 | 144.7 | |
| 12500 | 98.1 | 100.0 | 101.5 | 100.1 | 99.4 | 99.9 | 99.4 | 102.1 | 104.1 | 105.5 | 102.8 | 98.9 | 93.9 | 145.9 | |
| 16000 | 93.8 | 97.9 | 98.9 | 98.2 | 99.6 | 99.1 | 99.4 | 100.7 | 102.5 | 102.8 | 102.3 | 97.6 | 92.2 | 145.8 | |
| 20000 | 91.5 | 94.1 | 95.8 | 96.4 | 97.9 | 98.2 | 98.0 | 98.6 | 99.9 | 99.7 | 100.6 | 96.1 | 91.5 | 145.4 | |
| 25000 | 89.4 | 92.3 | 94.3 | 93.8 | 96.4 | 97.5 | 97.6 | 96.9 | 94.4 | 93.4 | 92.9 | 89.6 | 82.7 | 144.5 | |
| 31500 | 82.0 | 86.9 | 88.9 | 88.9 | 88.1 | 91.4 | 93.0 | 92.5 | 92.1 | 94.4 | 92.9 | 89.6 | 82.7 | 144.5 | |
| 40000 | 78.8 | 83.5 | 86.0 | 85.7 | 89.5 | 90.1 | 90.2 | 90.5 | 91.3 | 91.1 | 89.8 | 86.4 | 79.3 | 146.0 | |
| 50000 | 75.8 | 80.4 | 83.2 | 82.4 | 85.9 | 87.4 | 86.6 | 86.7 | 88.1 | 88.5 | 84.9 | 77.7 | 68.9 | 147.4 | |
| 63000 | 70.8 | 76.5 | 79.0 | 78.8 | 81.3 | 83.5 | 81.9 | 84.0 | 86.2 | 86.2 | 80.5 | 70.9 | 60.4 | 152.1 | |
| 80000 | 65.5 | 74.5 | 74.5 | 74.5 | 73.9 | 77.3 | 79.5 | 76.8 | 77.9 | 82.9 | 83.2 | 80.5 | 70.9 | 152.1 | |
| OASPL | 105.7 | 106.0 | 106.8 | 108.1 | 109.3 | 110.1 | 112.0 | 114.0 | 116.6 | 121.4 | 125.7 | 122.9 | 119.7 | 161.5 | |
| PWL | 116.9 | 118.5 | 119.1 | 118.8 | 120.1 | 121.5 | 124.7 | 126.3 | 129.1 | 133.1 | 136.1 | 131.4 | 127.4 | | |
| PMLT | 116.9 | 119.9 | 119.1 | 118.8 | 120.1 | 121.5 | 124.7 | 126.3 | 129.1 | 133.1 | 136.1 | 131.4 | 127.4 | | |
| DBA | 103.6 | 105.2 | 105.9 | 105.4 | 106.8 | 108.0 | 110.4 | 113.1 | 116.0 | 120.9 | 125.3 | 120.6 | 114.9 | | |

NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514

VEHICLE = ADH161 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 83.00 PAMB HG = 29.25 RELHUM = 62.5 PCT
WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =
FNINI = LBS XNL RPM XNHR = RPM XNH RPM V8 = 2438.0 FPS AE8 = 19.9 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2438.0 FPS AE8 = 19.9 SQ IN
TAP = X0616C TEST PT NO = 0616 NC = AE048 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0616 X0616F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

FREQ

50

63

100

125

160

200

250

315

400

500

630

800

1000

1250

1600

2000

2500

3150

4000

5000

6300

8000

10000

12500

16000

20000

25000

31500

40000

50000

63000

80000

100000

125000

160000

200000

250000

315000

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES
NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514
VEHICL = ADH161 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVL = 400. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 83.00 PAMB HG = 29.25 RELHUM = 62.5 PCT
WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR
FNINI = LBS XNLR RPM XNH XNHR = RPM V8 = 2438.0 FPS AE8 = 19.9 SO IN
FNRAMB = LBS XNLR RPM XNH XNHR = RPM V8 = 2438.0 FPS AE8 = 19.9 SO IN
CORR FAN SPEED = RPM
RUNPT = 82F-400-0616 TAPE = X0616F TEST PT NO = 0616 NC = AE048 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0616 X06161

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

| | | | | | | | | | | | | | | |
|-------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| 50 | 68.7 | 72.0 | 72.9 | 73.4 | 73.4 | 72.8 | 78.0 | 75.9 | 79.2 | 86.9 | 90.2 | 89.1 | 84.7 | 164.6 |
| 60 | 70.0 | 72.8 | 73.3 | 72.2 | 74.0 | 74.2 | 74.9 | 78.1 | 83.4 | 91.0 | 95.3 | 91.5 | 85.9 | 168.2 |
| 80 | 70.8 | 72.9 | 74.6 | 74.1 | 75.1 | 75.1 | 76.3 | 78.1 | 83.4 | 91.0 | 95.3 | 91.5 | 85.9 | 168.2 |
| 100 | 70.8 | 73.9 | 75.9 | 75.1 | 76.8 | 76.8 | 77.6 | 79.5 | 84.6 | 91.2 | 96.0 | 92.1 | 85.9 | 168.9 |
| 125 | 73.6 | 74.5 | 76.7 | 76.0 | 77.7 | 79.0 | 80.6 | 85.8 | 90.7 | 95.8 | 90.5 | 86.6 | 168.7 | |
| 160 | 75.8 | 76.2 | 78.0 | 80.0 | 80.0 | 79.0 | 79.8 | 81.2 | 86.2 | 89.3 | 94.8 | 88.6 | 83.9 | 167.7 |
| 200 | 75.0 | 80.5 | 80.7 | 79.8 | 81.1 | 80.9 | 81.8 | 82.3 | 86.2 | 89.5 | 92.6 | 86.5 | 83.3 | 166.8 |
| 250 | 77.0 | 77.3 | 79.6 | 79.3 | 79.8 | 79.8 | 80.5 | 81.2 | 82.7 | 86.7 | 89.5 | 82.5 | 79.8 | 165.6 |
| 315 | 76.9 | 78.0 | 79.3 | 78.8 | 80.5 | 80.4 | 81.1 | 82.1 | 82.9 | 86.1 | 87.3 | 86.9 | 81.5 | 164.9 |
| 400 | 76.4 | 79.5 | 80.3 | 78.8 | 80.4 | 80.4 | 81.1 | 82.1 | 82.9 | 86.1 | 87.3 | 86.9 | 81.5 | 164.9 |
| 500 | 76.8 | 80.0 | 79.4 | 80.4 | 80.9 | 81.9 | 83.4 | 85.8 | 86.4 | 85.7 | 79.7 | 76.9 | 164.7 | |
| 630 | 76.4 | 77.8 | 79.1 | 79.2 | 80.6 | 81.5 | 82.6 | 83.2 | 85.6 | 85.3 | 83.7 | 77.8 | 74.4 | 164.4 |
| 800 | 76.5 | 79.5 | 80.5 | 79.7 | 81.0 | 80.6 | 82.2 | 83.5 | 85.2 | 84.3 | 82.0 | 75.4 | 72.7 | 164.4 |
| 1000 | 75.3 | 79.3 | 80.3 | 79.4 | 81.0 | 81.4 | 82.0 | 82.4 | 85.4 | 85.2 | 81.5 | 76.1 | 72.1 | 165.1 |
| 1250 | 74.6 | 78.7 | 80.0 | 80.5 | 82.0 | 82.6 | 83.3 | 84.5 | 85.8 | 80.8 | 76.3 | 71.8 | 166.2 | |
| 1600 | 75.4 | 80.3 | 81.3 | 80.3 | 83.3 | 83.3 | 81.9 | 82.8 | 84.5 | 82.8 | 80.1 | 74.5 | 68.4 | 167.0 |
| 2000 | 75.6 | 80.3 | 83.4 | 82.6 | 83.7 | 82.3 | 81.7 | 81.4 | 82.4 | 79.8 | 77.8 | 71.2 | 64.2 | 168.0 |
| 2500 | 70.8 | 77.9 | 80.3 | 80.2 | 81.4 | 80.9 | 79.9 | 78.0 | 81.5 | 78.0 | 73.6 | 68.0 | 57.8 | 168.4 |
| 3150 | 64.5 | 71.0 | 74.7 | 76.1 | 78.5 | 78.9 | 78.2 | 75.8 | 75.5 | 71.4 | 66.9 | 59.3 | 44.8 | 167.9 |
| 4000 | 55.4 | 63.7 | 68.7 | 69.5 | 71.1 | 71.6 | 70.0 | 67.5 | 69.3 | 65.0 | 58.4 | 48.0 | 27.9 | 167.8 |
| 5000 | 40.2 | 52.1 | 57.9 | 58.7 | 64.2 | 63.8 | 62.7 | 60.5 | 60.6 | 54.6 | 45.5 | 29.7 | 1.2 | 168.6 |
| 6300 | 18.8 | 34.2 | 42.6 | 45.2 | 50.6 | 51.3 | 49.0 | 45.5 | 45.5 | 37.6 | 24.8 | 169.6 | | |
| 8000 | | | | | | | | | | | | 171.7 | | |
| 10000 | | | | | | | | | | | | 171.7 | | |
| 12500 | | | | | | | | | | | | | | |
| 16000 | | | | | | | | | | | | | | |
| 20000 | | | | | | | | | | | | | | |
| 25000 | | | | | | | | | | | | | | |
| 31500 | | | | | | | | | | | | | | |
| 40000 | | | | | | | | | | | | | | |
| 50000 | | | | | | | | | | | | | | |
| 63000 | | | | | | | | | | | | | | |
| 80000 | | | | | | | | | | | | | | |

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NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

MODEL AREA = 128.3 SQ CM (19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

| | | | | | | | | | | | | | | |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| DBA | 84.8 | 88.8 | 90.6 | 90.1 | 91.8 | 91.7 | 91.6 | 91.9 | 94.3 | 93.9 | 92.9 | 87.2 | 83.3 | |
| PWL | 96.0 | 100.9 | 103.2 | 102.7 | 104.2 | 103.9 | 103.7 | 103.1 | 105.6 | 105.9 | 105.7 | 100.5 | 96.7 | |
| PWL | 96.0 | 100.2 | 102.7 | 102.1 | 103.7 | 103.4 | 103.1 | 103.1 | 105.6 | 105.3 | 105.7 | 100.5 | 95.7 | |
| OASPL | 87.5 | 90.6 | 92.1 | 91.5 | 93.1 | 93.1 | 93.6 | 94.3 | 97.5 | 100.5 | 103.6 | 99.2 | 94.5 | 181.5 |

VEHICLE = ADH161 TEST DATE = 06-25-82
IAPLHA = SB59 LEGA = NO
WIND DIR = DEG WIND VEL = MPH
EXT DIST = 2400.0 FT
EXT CONFIG = SL
MODEL = AX
RELHUM = 62.5 PCT
FLVEL = 400. FPS
PAMB HG = 29.25
MIKE HT =
NBFR =

VEHICLE = ADH161 TEST DATE = 06-25-82
IAPLHA = SB59 LEGA = NO
WIND DIR = DEG WIND VEL = MPH
EXT DIST = 2400.0 FT
EXT CONFIG = SL
MODEL = AX
RELHUM = 62.5 PCT
FLVEL = 400. FPS
PAMB HG = 29.25
MIKE HT =
NBFR =

VEHICLE = ADH161 TEST DATE = 06-25-82
IAPLHA = SB59 LEGA = NO
WIND DIR = DEG WIND VEL = MPH
EXT DIST = 2400.0 FT
EXT CONFIG = SL
MODEL = AX
RELHUM = 62.5 PCT
FLVEL = 400. FPS
PAMB HG = 29.25
MIKE HT =
NBFR =

VEHICLE = ADH161 TEST DATE = 06-25-82
IAPLHA = SB59 LEGA = NO
WIND DIR = DEG WIND VEL = MPH
EXT DIST = 2400.0 FT
EXT CONFIG = SL
MODEL = AX
RELHUM = 62.5 PCT
FLVEL = 400. FPS
PAMB HG = 29.25
MIKE HT =
NBFR =

VEHICLE = ADH161 TEST DATE = 06-25-82
IAPLHA = SB59 LEGA = NO
WIND DIR = DEG WIND VEL = MPH
EXT DIST = 2400.0 FT
EXT CONFIG = SL
MODEL = AX
RELHUM = 62.5 PCT
FLVEL = 400. FPS
PAMB HG = 29.25
MIKE HT =
NBFR =

VEHICLE = ADH161 TEST DATE = 06-25-82
IAPLHA = SB59 LEGA = NO
WIND DIR = DEG WIND VEL = MPH
EXT DIST = 2400.0 FT
EXT CONFIG = SL
MODEL = AX
RELHUM = 62.5 PCT
FLVEL = 400. FPS
PAMB HG = 29.25
MIKE HT =
NBFR =

VEHICLE = ADH161 TEST DATE = 06-25-82
IAPLHA = SB59 LEGA = NO
WIND DIR = DEG WIND VEL = MPH
EXT DIST = 2400.0 FT
EXT CONFIG = SL
MODEL = AX
RELHUM = 62.5 PCT
FLVEL = 400. FPS
PAMB HG = 29.25
MIKE HT =
NBFR =

VEHICLE = ADH161 TEST DATE = 06-25-82
IAPLHA = SB59 LEGA = NO
WIND DIR = DEG WIND VEL = MPH
EXT DIST = 2400.0 FT
EXT CONFIG = SL
MODEL = AX
RELHUM = 62.5 PCT
FLVEL = 400. FPS
PAMB HG = 29.25
MIKE HT =
NBFR =

VEHICLE = ADH161 TEST DATE = 06-25-82
IAPLHA = SB59 LEGA = NO
WIND DIR = DEG WIND VEL = MPH
EXT DIST = 2400.0 FT
EXT CONFIG = SL
MODEL = AX
RELHUM = 62.5 PCT
FLVEL = 400. FPS
PAMB HG = 29.25
MIKE HT =
NBFR =

VEHICLE = ADH161 TEST DATE = 06-25-82
IAPLHA = SB59 LEGA = NO
WIND DIR = DEG WIND VEL = MPH
EXT DIST = 2400.0 FT
EXT CONFIG = SL
MODEL = AX
RELHUM = 62.5 PCT
FLVEL = 400. FPS
PAMB HG = 29.25
MIKE HT =
NBFR =

VEHICLE = ADH161 TEST DATE = 06-25-82
IAPLHA = SB59 LEGA = NO
WIND DIR = DEG WIND VEL = MPH
EXT DIST = 2400.0 FT
EXT CONFIG = SL
MODEL = AX
RELHUM = 62.5 PCT
FLVEL = 400. FPS
PAMB HG = 29.25
MIKE HT =
NBFR =

VEHICLE = ADH161 TEST DATE = 06-25-82
IAPLHA = SB59 LEGA = NO
WIND DIR = DEG WIND VEL = MPH
EXT DIST = 2400.0 FT
EXT CONFIG = SL
MODEL = AX
RELHUM = 62.5 PCT
FLVEL = 400. FPS
PAMB HG = 29.25
MIKE HT =
NBFR =

ANGLES MEASURED FROM INLET, DEGREES

AIRC

| FREQ | PWL |
|------|------|
| 40. | 160. |
| 50. | 150. |
| 60. | 140. |
| 70. | 130. |
| 80. | 120. |
| 90. | 110. |
| 100. | 100. |
| 110. | 90. |
| 120. | 80. |
| 130. | 70. |
| 140. | 60. |
| 150. | 50. |
| 160. | 40. |

[illegible]

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0619 X0619F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 82.0 84.8 85.8 83.6 81.5 81.3 87.5 89.4 85.3 83.7 94.0 93.7 94.6 130.3

63 84.0 92.2 95.0 92.8 91.1 88.8 97.1 97.1 90.3 89.6 99.7 98.7 100.1 137.1

80 87.7 92.5 89.2 89.3 91.7 91.9 91.5 92.2 90.3 94.4 98.3 134.4

100 88.7 95.0 91.0 91.6 93.0 93.6 95.6 93.5 95.6 102.2 103.8 138.0

125 84.9 89.1 91.2 93.3 93.9 94.5 95.2 94.4 97.0 102.9 106.0 140.3

160 85.0 84.5 89.1 88.1 89.4 89.8 96.7 92.6 94.3 99.4 104.8 107.7 142.0

200 86.1 86.6 88.7 90.3 92.9 94.5 98.4 98.4 100.7 105.6 110.0 111.7 143.7

250 86.0 90.6 90.3 90.9 91.2 92.3 95.0 97.4 99.1 105.9 111.0 114.0 147.4

315 85.3 89.6 90.1 89.9 93.2 95.1 97.0 97.4 101.3 108.7 112.8 115.6 149.0

400 86.9 90.7 91.4 91.0 93.3 93.7 101.6 98.2 102.7 112.0 115.1 116.8 154.1

500 88.2 90.7 91.5 91.8 93.4 95.0 96.6 99.5 104.3 113.8 117.0 117.4 151.7

630 89.5 91.6 93.1 93.6 95.2 96.8 98.4 100.4 104.8 116.1 118.8 116.4 153.3

800 93.2 94.2 95.5 94.7 96.8 97.7 99.3 103.2 107.2 116.8 119.7 117.0 154.1

1000 99.3 99.8 99.1 97.4 98.8 100.3 100.9 102.3 105.9 109.1 114.8 117.4 151.7

1250 97.0 103.1 103.1 102.4 101.9 102.2 104.6 108.6 116.1 120.0 118.4 116.5 154.2

1500 96.1 97.3 99.4 99.7 101.3 102.2 103.3 105.8 109.4 115.3 120.1 117.1 153.7

2000 96.8 98.9 99.6 98.2 98.8 100.7 102.4 105.7 109.4 114.4 118.9 114.4 152.5

2500 98.1 99.3 100.2 98.9 100.3 100.9 102.3 105.9 109.1 114.8 117.4 113.7 151.7

3150 97.4 99.0 99.2 98.5 99.8 101.2 103.0 106.0 109.1 113.2 116.4 112.1 150.7

4000 94.8 96.4 98.3 97.3 99.1 100.1 102.0 105.3 107.9 111.6 114.1 110.7 149.2

5000 94.6 97.1 97.5 98.9 100.6 102.3 105.3 107.8 111.4 114.0 116.8 110.6 149.1

6300 93.5 96.3 97.6 98.7 100.0 101.0 103.4 106.3 107.7 109.1 105.6 103.3 147.0

8000 92.4 96.3 97.3 96.7 97.7 99.5 100.7 104.3 106.3 107.9 110.6 105.9 147.0

10000 93.0 97.5 98.7 97.4 98.7 100.0 101.0 103.4 105.3 107.7 109.1 105.6 147.0

12500 93.5 96.9 100.2 99.2 99.5 99.7 99.6 102.2 103.8 105.5 107.2 104.3 146.6

16000 90.4 95.4 97.3 98.1 100.0 99.4 99.3 100.9 101.7 103.6 104.7 102.5 146.3

20000 88.7 91.7 94.5 94.8 97.6 99.1 97.9 97.8 99.7 100.3 104.3 100.0 146.2

25000 85.6 93.3 95.6 93.0 96.2 97.7 96.9 96.2 97.7 99.0 101.5 98.2 146.6

31500 79.3 84.7 87.5 87.8 91.2 92.8 92.1 91.5 93.5 94.9 97.6 93.2 145.2

40000 76.7 82.7 85.2 85.3 88.9 90.5 90.1 89.6 91.5 93.8 96.7 91.6 147.6

50000 73.4 79.2 82.6 82.9 86.9 88.1 87.3 86.2 89.8 93.1 94.5 82.9 150.0

63000 70.1 75.6 79.4 83.7 85.4 86.8 84.1 87.4 91.7 94.4 88.1 79.5 153.6

80000 63.4 69.8 75.3 74.9 78.4 80.0 77.4 79.1 83.5 89.8 91.4 82.5 157.1

DBA 185.4 191.5 196.5 196.3 199.9 201.6 199.1 200.5 204.6 210.5 212.3 204.1 194.5

PWL 121.8 124.2 124.6 123.9 123.9 125.1 127.8 129.7 132.6 137.8 140.9 138.5 136.3

PNL 120.4 122.7 123.3 122.6 123.9 125.1 127.0 129.7 132.6 137.8 140.9 138.5 136.3

DBA 185.4 191.5 196.5 196.3 199.9 201.6 199.1 200.5 204.6 210.5 212.3 204.1 194.5

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH151 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 0. FPS

WIND DIR = 5859 DEG WIND VEL = NO MPH PWL AREA = FULL SPHERE TAMB F = 79.00 MIKE HT = 29.45 RELHUM = 47.2 PCT

FMIN: LBS XNL LBS XNL RPM XNHR RPM V8 = 2432.8 FPS AE8 = 19.9 SQ IN = 0. SQ IN

NRAMB = X0619F TEST PT NO = 0617 NC = AE048 CORR FAN SPEED = RPM

ZER-0619 TAPE

1PT =

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0619 X06191

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 65.9 71.2 73.1 73.3 76.1 76.6 84.3 80.6 84.3 92.6 94.2 93.7 88.7 169.1

60 68.5 72.1 74.7 75.9 77.9 79.7 81.2 82.7 86.4 96.6 97.7 95.2 89.7 171.8

70 72.0 74.6 77.0 79.5 80.5 82.0 85.5 88.7 97.2 98.5 95.7 90.2 172.6

80 75.6 83.2 84.4 84.4 84.7 86.7 89.9 96.3 98.6 94.7 89.0 172.7

90 75.7 78.7 80.7 80.3 82.1 82.9 84.2 87.3 89.6 94.2 94.9 88.6 81.1 170.1

100 74.8 78.7 80.5 81.0 83.0 84.6 87.4 90.3 94.1 96.9 91.0 84.2 171.0

110 74.4 77.3 80.6 81.6 83.6 84.6 85.6 87.7 90.6 95.2 98.5 93.0 86.7 172.1

120 75.6 83.2 84.4 84.4 84.7 86.7 89.9 96.3 98.6 94.7 89.0 172.7

130 75.6 83.2 84.4 84.4 84.7 86.7 89.9 96.3 98.6 94.7 89.0 172.7

140 69.1 74.1 76.9 77.1 79.8 80.7 82.3 85.4 86.5 87.4 87.7 80.4 72.1 166.4

150 67.6 73.8 76.4 76.8 78.3 80.3 81.3 84.4 85.3 85.4 85.8 77.4 69.3 165.5

160 67.3 73.5 77.5 77.3 79.2 80.6 81.4 83.3 84.1 84.8 83.8 76.3 67.2 165.5

170 63.2 71.4 75.3 77.4 79.7 79.7 79.3 80.2 79.7 79.6 77.6 70.3 58.3 164.8

180 53.3 62.0 68.2 70.4 73.7 75.6 75.0 73.3 73.0 71.3 69.2 58.2 39.6 165.0

190 40.7 52.3 58.9 61.6 66.4 68.4 67.2 65.0 64.9 62.5 59.0 44.2 19.6 163.7

200 28.4 42.8 50.4 53.7 59.1 61.2 60.3 58.0 56.7 53.8 48.4 28.9 168.4

210 7.3 25.1 35.7 40.5 46.9 48.9 47.4 43.8 42.9 38.9 28.4 3.0 175.6

220 84.9 89.2 91.3 91.4 93.0 94.1 95.4 97.6 100.1 105.8 107.5 103.7 97.9 183.8

230 89.4 94.6 98.4 99.1 101.5 102.6 102.7 104.0 105.6 109.0 110.2 104.6 97.6

240 90.1 95.4 99.0 99.8 102.0 102.6 103.2 104.0 106.2 109.6 111.3 105.8 97.6

250 78.6 83.7 86.8 87.3 89.3 90.4 91.0 93.3 94.6 96.8 97.8 91.6 84.5

260 84.9 89.2 91.3 91.4 93.0 94.1 95.4 97.6 100.1 105.8 107.5 103.7 97.9 183.8

270 84.9 89.2 91.3 91.4 93.0 94.1 95.4 97.6 100.1 105.8 107.5 103.7 97.9 183.8

280 84.9 89.2 91.3 91.4 93.0 94.1 95.4 97.6 100.1 105.8 107.5 103.7 97.9 183.8

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

MODEL AREA = 128.3 SQ CM (19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

VEHICLE = ADH151 TEST DATE = 06-25-82 LOCATION = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 0. FPS
WIND DIR = 5859 DEG WIND VEL = NO MPH PWL AREA = FULL SPHERE TAMB F = 79.00 MIKE HI = 29.45 RELHUM = 47.2 PCT
FINI = LBS XNL RPM XNH RPM XNHR = RPM V8 = 2432.8 FPS AER AE18 = 19.9 SQ IN
FNAMB = LBS XNLR RPM XNHR = RPM V8 = 2432.8 FPS AER AE18 = 19.9 SQ IN
RUNPT = 82F-ZER-0619 TAPE = X06191 TEST PT NO = 0619 NC = AE048 CORR FAN SPEED = RPM

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CC1

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL BZF-400-0620 X0620C
BACKGROUND BZF-400-0600 X06000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160 PWL

| | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| DBA | 103.4 | 104.9 | 105.9 | 105.7 | 107.2 | 108.4 | 110.4 | 113.5 | 116.1 | 121.3 | 125.9 | 121.4 | 115.5 |
| PMLT | 116.4 | 119.4 | 119.3 | 119.1 | 120.8 | 122.0 | 124.7 | 126.7 | 129.3 | 133.5 | 136.5 | 132.1 | 127.9 |
| PWL | 116.4 | 118.0 | 119.3 | 119.1 | 120.8 | 122.0 | 124.1 | 126.7 | 129.3 | 133.5 | 136.5 | 132.1 | 127.9 |
| OASPL | 105.5 | 107.6 | 108.6 | 108.5 | 109.8 | 110.5 | 112.0 | 114.3 | 116.7 | 121.7 | 126.2 | 123.5 | 120.0 |
| 80000 | 65.5 | 70.9 | 74.5 | 74.9 | 77.8 | 79.7 | 77.1 | 78.9 | 82.9 | 84.0 | 80.3 | 70.7 | 60.4 |
| 63000 | 70.3 | 75.0 | 78.5 | 78.8 | 82.3 | 83.7 | 82.2 | 83.7 | 86.7 | 86.2 | 84.7 | 77.7 | 69.4 |
| 50000 | 75.3 | 79.4 | 82.7 | 82.7 | 86.4 | 87.4 | 86.9 | 86.9 | 89.1 | 88.0 | 87.7 | 82.6 | 75.3 |
| 40000 | 78.5 | 83.5 | 85.5 | 85.7 | 89.2 | 90.6 | 90.8 | 91.8 | 91.8 | 90.8 | 90.3 | 86.4 | 79.5 |
| 31500 | 82.3 | 86.4 | 88.7 | 88.6 | 91.9 | 93.3 | 92.8 | 92.3 | 94.7 | 94.1 | 92.9 | 90.1 | 82.9 |
| 25000 | 88.4 | 91.6 | 93.6 | 94.5 | 96.9 | 98.0 | 97.6 | 96.7 | 99.1 | 98.9 | 97.1 | 94.7 | 89.0 |
| 20000 | 91.5 | 93.4 | 95.0 | 96.1 | 98.2 | 98.7 | 98.0 | 99.1 | 100.2 | 99.7 | 100.4 | 96.6 | 91.8 |
| 16000 | 93.8 | 97.2 | 98.1 | 98.7 | 100.8 | 100.1 | 99.6 | 100.7 | 102.8 | 102.8 | 101.8 | 98.1 | 93.2 |
| 12500 | 97.6 | 99.5 | 101.5 | 100.6 | 100.1 | 100.1 | 99.7 | 102.3 | 104.1 | 104.8 | 103.3 | 99.1 | 93.9 |
| 10000 | 96.5 | 98.7 | 98.2 | 97.2 | 98.2 | 98.7 | 99.7 | 102.1 | 104.5 | 106.1 | 103.3 | 98.6 | 93.9 |
| 8000 | 92.8 | 94.8 | 95.2 | 95.8 | 97.1 | 97.1 | 99.1 | 102.4 | 103.9 | 105.7 | 104.2 | 98.0 | 93.4 |
| 6300 | 92.4 | 94.2 | 95.0 | 95.5 | 96.9 | 96.9 | 99.4 | 102.9 | 104.6 | 105.7 | 105.8 | 99.8 | 94.3 |
| 5000 | 92.6 | 93.8 | 94.4 | 94.4 | 95.6 | 97.6 | 99.2 | 102.8 | 104.8 | 106.9 | 107.7 | 101.0 | 95.8 |
| 4000 | 91.5 | 92.2 | 93.8 | 93.8 | 95.6 | 97.3 | 99.2 | 102.8 | 104.2 | 107.6 | 102.4 | 96.4 | 94.2 |
| 3150 | 91.4 | 93.2 | 95.0 | 94.8 | 96.8 | 98.4 | 100.0 | 102.8 | 105.8 | 108.9 | 111.4 | 104.3 | 97.8 |
| 2500 | 92.8 | 94.1 | 94.9 | 94.2 | 96.0 | 97.4 | 99.3 | 102.9 | 105.1 | 110.3 | 112.1 | 105.9 | 98.7 |
| 2000 | 92.8 | 92.5 | 93.9 | 93.5 | 95.3 | 96.2 | 99.2 | 102.5 | 105.6 | 109.9 | 114.4 | 107.5 | 100.8 |
| 1600 | 91.1 | 91.3 | 94.2 | 94.5 | 96.6 | 97.9 | 99.8 | 102.1 | 105.5 | 110.0 | 116.4 | 109.3 | 102.1 |
| 1250 | 90.8 | 95.6 | 96.1 | 95.4 | 96.0 | 96.3 | 98.2 | 100.9 | 104.3 | 111.2 | 117.8 | 111.0 | 102.7 |
| 1000 | 91.3 | 91.6 | 92.4 | 91.6 | 93.7 | 94.3 | 97.0 | 100.4 | 104.4 | 112.2 | 118.1 | 112.7 | 103.1 |
| 800 | 87.4 | 87.9 | 89.5 | 90.5 | 92.6 | 93.5 | 95.6 | 99.5 | 103.7 | 112.5 | 113.6 | 105.5 | 100.4 |
| 630 | 85.3 | 87.0 | 89.3 | 89.6 | 91.2 | 92.3 | 94.9 | 97.1 | 100.3 | 111.9 | 116.0 | 114.9 | 107.9 |
| 500 | 84.2 | 86.2 | 87.8 | 88.5 | 90.1 | 91.5 | 92.6 | 95.8 | 99.8 | 109.3 | 114.2 | 114.9 | 110.0 |
| 400 | 83.6 | 85.2 | 86.7 | 86.7 | 89.1 | 89.7 | 96.6 | 95.0 | 98.4 | 106.5 | 112.4 | 112.0 | 107.6 |
| 315 | 82.3 | 85.1 | 86.3 | 86.9 | 87.5 | 89.1 | 93.0 | 93.6 | 95.1 | 101.1 | 107.5 | 111.4 | 109.4 |
| 250 | 82.3 | 85.8 | 85.3 | 86.9 | 87.5 | 89.1 | 91.0 | 93.6 | 95.1 | 101.1 | 107.5 | 111.4 | 109.4 |
| 200 | 83.8 | 84.4 | 85.4 | 84.9 | 86.8 | 88.6 | 92.0 | 91.7 | 95.1 | 95.9 | 101.6 | 107.0 | 109.4 |
| 160 | 83.8 | 81.3 | 87.8 | 86.1 | 87.4 | 87.3 | 95.4 | 89.1 | 90.8 | 95.6 | 102.0 | 105.4 | 107.9 |
| 125 | 84.9 | 87.6 | 89.9 | 90.2 | 91.8 | 91.9 | 93.0 | 92.7 | 91.2 | 93.7 | 100.4 | 104.5 | 106.0 |
| 100 | 87.7 | 93.2 | 89.5 | 90.1 | 92.1 | 91.5 | 92.6 | 94.1 | 91.5 | 91.8 | 96.2 | 100.7 | 102.8 |
| 80 | 87.9 | 93.0 | 89.2 | 90.5 | 89.9 | 91.2 | 91.4 | 91.5 | 91.5 | 93.3 | 93.4 | 96.1 | 99.0 |
| 63 | 85.2 | 89.2 | 91.6 | 92.6 | 89.8 | 96.4 | 92.1 | 89.8 | 93.1 | 93.2 | 91.2 | 97.6 | 134.6 |

NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514

VEHICLE = ADH162 TEST DATE = 06-25-82 LOCAL = CAT ANECH CH CONFIG = 6 MODEL = AX FLVEL = 400. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 83.00 MIKE HG = 29.25 RELHUM = 62.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR
FNRAMP = LBS XNLR = RPM XNHR = RPM V8 = 2447.4 FPS AE8 = 19.9 SQ IN
TAP = X0620C TEST FT NO = 0620 NC = AE048 CORR FAN SPEED = RPM

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DATPROC - FLTRAN

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0620 X0620F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.
PWL

53
50
80
100
125
160
200

250 89.7 91.9 90.0 90.0 89.0 89.1 90.0 93.9 100.0 104.6 108.8 110.0 142.3
315 89.7 91.9 90.0 90.0 90.3 90.6 91.6 91.3 95.2 102.4 107.9 111.1 144.3
400 90.0 91.4 90.3 90.9 89.9 90.3 92.2 97.5 106.2 110.8 112.7 111.1 146.2
500 91.0 92.4 90.1 92.0 91.8 91.9 93.8 99.1 110.3 114.5 115.3 112.7 149.1
630 91.9 92.6 92.7 92.0 93.2 92.7 94.3 95.5 102.6 111.3 117.1 115.6 150.6
800 92.9 93.5 94.3 93.1 94.6 94.9 97.7 103.6 111.3 116.0 113.8 151.2
1000 95.1 94.4 94.5 94.1 95.6 95.0 96.4 98.7 103.7 110.4 117.8 114.4 150.7
1250 97.1 96.7 96.5 94.7 98.1 97.1 97.8 99.3 105.2 109.7 116.8 113.2 150.0
1600 97.1 101.1 100.6 98.7 99.0 99.6 100.8 105.7 109.9 115.2 111.7 112.3 149.2
2000 98.8 97.8 98.4 97.9 97.5 99.3 101.5 105.3 110.5 113.0 110.4 110.6 148.0
2500 99.6 98.4 98.8 97.3 98.9 99.0 99.7 102.2 106.5 109.5 112.9 109.3 147.8
3150 100.1 100.5 100.2 98.3 100.1 100.4 100.8 102.4 105.7 108.9 109.9 107.9 146.8
4000 99.0 99.9 99.5 98.5 99.7 99.6 100.6 103.2 106.2 107.1 107.8 105.3 145.9
5000 99.0 98.9 99.5 98.5 99.7 99.6 100.6 100.8 103.2 106.2 107.1 107.8 145.9
6300 100.0 100.5 100.2 99.3 101.0 99.9 101.3 103.4 105.6 107.2 106.3 103.6 145.9
8000 99.7 100.8 100.7 100.2 99.9 100.1 101.1 103.0 106.7 108.1 106.0 104.7 146.7
10000 99.9 101.2 100.7 100.3 102.0 101.7 101.8 103.0 106.7 107.1 107.6 106.8 147.7
12500 101.8 103.7 102.7 101.0 104.0 103.1 102.0 103.6 106.8 106.7 106.2 105.6 148.9
16000 103.0 104.5 105.8 104.0 104.9 103.1 102.1 102.4 104.7 103.8 104.6 103.7 149.9
20000 99.7 102.4 102.1 102.2 101.7 100.5 100.9 104.4 104.0 102.6 103.3 104.5 150.0
25000 99.9 98.0 98.7 98.6 101.5 101.0 100.1 98.5 100.4 99.7 99.2 99.8 149.6
31500 98.7 97.6 98.2 97.6 96.5 96.3 95.2 93.9 98.4 97.2 97.4 96.9 150.0
40000 88.8 91.6 92.5 90.9 93.8 93.6 92.6 91.6 95.6 94.3 94.6 93.1 150.2
50000 84.6 88.4 88.9 87.6 91.0 90.4 89.2 88.2 92.9 91.9 90.7 86.7 151.2
63000 80.5 83.3 85.2 83.6 86.9 86.7 84.0 84.1 90.6 91.1 87.7 81.1 153.4
80000 73.9 77.4 79.5 78.2 82.4 82.7 78.9 79.3 80.8 81.3 77.9 71.3 153.4

GASPL 111.7 112.8 113.0 111.9 113.1 112.6 112.7 114.2 117.9 121.6 125.9 124.2 123.7 163.5
PNLT 122.5 123.0 123.1 121.9 122.9 122.9 123.6 125.6 129.2 132.8 135.9 133.5 134.1
DBA 196.0 199.3 201.2 199.9 203.8 203.9 200.5 200.7 204.2 204.5 201.4 195.3 192.7

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH162 TEST DATE = 06-25-82 LOCAL = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVL = 400. FPS
IAPLHA = SB59 DEQ WIND DIR = NO LEQA WIND VEL = MPH PWL AREA = FULL SPHERE TAMB F = 83.00 MIKE HG = 29.25 RELHUM = 62.5 PCT
WIND DIR = SB59 DEQ WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR
FNINI = LBS XNL RPM XNH XNHR RPM V8 = 2447.4 FPS AE8 = 19.9 SQ IN V18 = FPS AE18 = 0. SQ IN
FNRAMB = LBS XNLR RPM = XNHR RPM V8 = 2447.4 FPS AE8 = 19.9 SQ IN V18 = FPS AE18 = 0. SQ IN
RUNPT = 82F-400-0620 TAPE = X0620F TEST PT NO = 0620 NC = AE048 CORR FAN SPEED = RPM

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OF POOR QUALITY

9001

DATPROC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0620 X06201

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 50 | 69.0 | 72.0 | 72.9 | 72.6 | 73.6 | 72.8 | 78.0 | 74.6 | 79.1 | 86.8 | 89.9 | 89.5 | 84.6 |
| 63 | 70.1 | 73.0 | 73.7 | 74.8 | 74.7 | 74.6 | 76.1 | 80.7 | 84.2 | 91.8 | 93.5 | 92.1 | 86.2 |
| 80 | 70.8 | 73.1 | 74.3 | 74.3 | 75.9 | 75.6 | 77.0 | 77.8 | 84.2 | 91.8 | 93.5 | 92.1 | 86.9 |
| 100 | 71.8 | 73.9 | 75.9 | 75.4 | 77.3 | 76.8 | 77.6 | 80.0 | 85.1 | 91.8 | 96.8 | 92.7 | 86.9 |
| 125 | 73.8 | 74.7 | 76.0 | 76.3 | 78.2 | 77.7 | 79.0 | 80.9 | 85.2 | 90.8 | 96.6 | 90.9 | 86.5 |
| 160 | 75.7 | 76.9 | 77.8 | 76.7 | 80.5 | 79.7 | 80.2 | 81.3 | 86.5 | 89.9 | 95.4 | 89.4 | 85.8 |
| 200 | 75.4 | 81.1 | 81.8 | 80.6 | 81.4 | 81.4 | 81.9 | 82.7 | 86.8 | 89.9 | 93.5 | 87.6 | 84.4 |
| 250 | 76.8 | 80.3 | 80.3 | 80.0 | 80.0 | 79.8 | 81.4 | 83.2 | 86.2 | 90.2 | 91.0 | 85.8 | 82.0 |
| 315 | 77.1 | 77.8 | 79.4 | 78.7 | 80.8 | 81.0 | 81.5 | 83.6 | 87.1 | 88.9 | 90.4 | 84.2 | 80.9 |
| 400 | 77.2 | 79.5 | 80.5 | 79.4 | 81.7 | 82.1 | 82.4 | 83.5 | 85.9 | 87.9 | 87.0 | 82.1 | 78.8 |
| 500 | 75.6 | 78.4 | 80.5 | 79.9 | 80.6 | 81.4 | 81.9 | 83.9 | 86.0 | 86.6 | 86.2 | 79.9 | 77.1 |
| 630 | 75.1 | 77.1 | 79.0 | 80.7 | 81.7 | 81.8 | 83.7 | 85.7 | 85.0 | 82.0 | 75.8 | 72.9 | 74.8 |
| 800 | 75.6 | 78.3 | 79.5 | 81.7 | 80.8 | 82.1 | 83.6 | 84.9 | 85.0 | 82.0 | 75.8 | 72.9 | 74.8 |
| 1000 | 74.9 | 78.3 | 79.7 | 80.3 | 80.5 | 80.9 | 81.7 | 83.1 | 85.8 | 85.6 | 81.2 | 76.2 | 72.7 |
| 1250 | 74.6 | 78.4 | 79.5 | 80.2 | 82.5 | 82.4 | 82.3 | 82.9 | 85.2 | 83.2 | 81.4 | 76.7 | 71.8 |
| 1600 | 75.6 | 80.3 | 81.1 | 80.5 | 84.2 | 83.5 | 82.2 | 83.1 | 85.2 | 83.2 | 80.0 | 75.1 | 69.2 |
| 2000 | 75.9 | 80.4 | 83.9 | 83.4 | 84.9 | 83.3 | 82.1 | 81.7 | 82.7 | 79.7 | 77.4 | 71.5 | 64.2 |
| 2500 | 70.8 | 77.1 | 79.6 | 80.7 | 81.7 | 81.4 | 79.9 | 79.6 | 81.5 | 78.8 | 73.7 | 68.2 | 58.1 |
| 3150 | 64.5 | 70.3 | 74.0 | 75.9 | 79.6 | 79.4 | 78.2 | 75.6 | 75.7 | 69.8 | 58.9 | 48.0 | 28.1 |
| 4000 | 57.2 | 65.2 | 69.7 | 71.4 | 71.6 | 71.8 | 70.3 | 67.7 | 60.8 | 54.3 | 46.3 | 30.5 | 2.3 |
| 5000 | 40.4 | 51.6 | 57.7 | 59.2 | 63.9 | 64.3 | 62.7 | 60.0 | 60.8 | 54.3 | 46.3 | 30.5 | 2.3 |
| 6300 | 18.5 | 34.2 | 42.1 | 45.2 | 51.1 | 51.3 | 49.3 | 45.8 | 46.0 | 37.7 | 24.6 | | |
| 8000 | 4.3 | 17.0 | 21.9 | 28.8 | 29.8 | 25.9 | 22.4 | 22.4 | 12.1 | | | | |
| 10000 | | | | | | | | | | | | | |
| 12500 | | | | | | | | | | | | | |
| 16000 | | | | | | | | | | | | | |
| 20000 | | | | | | | | | | | | | |
| 25000 | | | | | | | | | | | | | |
| 31500 | | | | | | | | | | | | | |
| 40000 | | | | | | | | | | | | | |
| 50000 | | | | | | | | | | | | | |
| 63000 | | | | | | | | | | | | | |
| 80000 | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| OASPL | 87.4 | 90.4 | 92.1 | 91.9 | 93.7 | 93.4 | 93.6 | 94.7 | 97.7 | 101.0 | 104.2 | 100.0 | 95.2 | 181.9 |
| PNL | 96.1 | 100.2 | 102.8 | 102.7 | 104.5 | 103.8 | 103.2 | 103.4 | 105.8 | 105.7 | 106.3 | 101.1 | 96.4 | |
| PNLT | 97.1 | 100.9 | 104.0 | 103.2 | 105.0 | 103.8 | 103.9 | 105.8 | 105.7 | 107.3 | 101.1 | 96.4 | | |
| DBA | 84.6 | 88.5 | 90.5 | 90.5 | 92.5 | 92.0 | 91.6 | 92.3 | 94.5 | 94.2 | 93.3 | 87.8 | 83.9 | |

MODEL AREA = 128.3 SQ CM (19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514

VEHICL = ADH162 TEST DATE = 06-25-82 LOCAL = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 400. FPS
 IAPLHA = SB59 PWL AREA = FULL SPHERE TAMF F = 83.00 PAMB HG = 29.25 RELHUM = 62.5 PCT
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =
 FNINI = LBS XNL RPM XNHR = XNHR RPM V8 = 2447.4 FPS AE8 = 19.9 SQ IN
 FNRAMB = LBS XNLR RPM XNHR = XNHR RPM V8 = 2447.4 FPS AE8 = 19.9 SQ IN
 RU 82F-400-0620 TAPE = X06201 TEST PT NO = 067 NC = AE048 CORR FAN SPEED = RPM

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OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 8ZF-ZER-0621 X0621F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 61.8 63.3 63.8 64.9 61.5 61.1 66.0 68.9 67.1 65.9 93.3 93.5 94.4 129.9

63 65.0 62.5 63.8 60.6 68.8 67.1 96.1 92.8 91.3 98.5 97.7 99.6 136.7

80 68.2 63.0 69.8 60.6 93.0 92.1 91.5 93.2 98.1 95.2 98.0 135.1

100 68.7 65.5 61.0 91.0 91.8 93.4 93.8 94.6 96.1 94.0 102.7 104.6 138.6

125 65.6 60.1 92.2 92.2 94.3 94.7 96.0 96.2 94.9 98.0 104.1 107.3 108.0 141.5

160 67.3 65.0 68.3 69.7 90.3 97.7 93.3 94.1 98.6 105.0 108.2 110.4 142.3

200 67.3 66.9 68.6 68.9 91.3 93.4 95.0 95.2 98.6 100.7 105.1 110.5 112.7 144.3

250 67.3 60.6 90.3 90.6 91.1 92.2 92.1 94.7 97.6 99.3 106.2 111.8 115.0 148.1

315 66.0 90.1 90.6 92.7 95.1 97.2 97.6 101.6 108.4 113.3 116.0 116.1 149.4

400 67.6 90.7 91.4 91.5 93.6 94.2 102.1 98.7 102.7 112.0 115.6 117.3 151.0

500 68.5 91.0 91.5 92.5 94.4 95.5 96.6 99.8 104.3 113.3 118.0 118.1 152.3

630 69.3 92.3 93.6 94.1 95.4 97.1 98.7 101.4 105.3 115.9 118.8 118.7 153.4

800 63.2 94.4 96.0 96.8 98.2 99.6 103.2 107.5 116.8 120.7 119.5 117.5 154.6

1000 67.8 99.1 99.3 97.9 98.7 99.6 101.5 104.1 108.3 116.9 121.0 120.0 117.1 155.0

1250 66.8 102.3 102.8 102.1 102.4 102.3 102.9 104.9 109.1 116.4 121.3 119.4 116.7 155.0

1500 66.8 102.3 102.8 102.1 102.4 102.3 102.9 104.9 109.1 116.4 121.3 119.4 116.7 155.0

1600 97.1 98.3 99.9 100.0 101.6 102.4 103.5 105.8 109.4 115.3 120.6 118.3 115.1 154.2

2000 98.0 98.7 99.9 100.1 100.7 102.7 106.2 109.4 114.6 119.7 115.7 113.5 153.1

2500 99.6 100.6 101.2 99.7 100.5 101.4 103.1 106.4 108.8 115.1 117.9 113.9 110.7 152.0

3150 98.2 99.7 100.2 99.8 100.8 101.9 103.5 106.8 109.3 113.7 117.2 112.8 109.3 151.4

4000 95.5 97.4 99.1 98.6 100.2 101.4 103.0 106.1 108.5 111.9 114.3 111.5 107.8 149.7

5000 95.6 98.7 99.5 98.7 99.9 101.4 102.8 105.8 108.3 111.9 114.3 110.3 106.8 149.6

6300 95.3 97.6 98.4 97.9 100.1 100.8 102.6 106.0 107.5 110.4 112.2 108.7 105.4 148.5

8000 95.0 97.6 98.9 97.8 98.8 100.3 101.8 104.6 106.6 108.7 110.4 106.7 104.1 147.5

10000 95.1 98.1 99.0 98.1 99.0 100.5 101.5 104.3 105.9 108.3 109.0 106.7 104.7 147.6

12500 94.6 98.1 100.9 100.9 100.9 100.9 101.2 102.9 104.7 106.2 107.6 105.2 102.7 147.5

15000 92.1 95.9 98.6 98.4 100.9 100.9 100.9 100.2 101.6 102.7 104.1 105.7 103.5 100.7 147.2

20000 90.2 93.0 95.9 96.1 98.4 99.6 99.6 99.4 100.5 101.5 102.9 101.8 97.9 147.1

25000 87.7 90.9 94.4 96.8 98.1 97.5 97.1 98.9 99.8 102.7 100.3 95.8 147.7

31500 81.4 86.7 89.0 91.9 94.0 93.0 92.9 94.5 96.8 98.8 96.1 90.0 146.7

40000 78.6 84.2 86.5 89.8 91.4 91.0 90.8 93.0 95.3 97.6 94.0 86.8 148.8

50000 75.6 80.8 84.6 87.7 89.3 88.1 87.7 90.5 94.4 96.5 91.2 84.1 151.3

63000 71.5 76.8 81.0 80.6 84.4 85.5 83.5 85.3 87.7 93.0 94.7 88.5 154.3

80000 64.3 70.9 76.2 75.3 78.1 80.7 77.6 79.0 83.4 90.0 91.0 84.2 157.1

DBA 186.6 192.7 197.6 196.8 199.9 202.1 199.4 200.8 204.6 210.9 212.1 205.4 195.1

PWL 121.4 123.3 124.1 123.6 124.7 125.7 128.4 130.2 132.9 138.0 141.5 139.1 136.8

PNL 121.4 124.5 125.2 124.7 124.7 125.7 128.4 130.2 132.9 138.0 141.5 139.1 136.8

DBA 186.6 192.7 197.6 196.8 199.9 202.1 199.4 200.8 204.6 210.9 212.1 205.4 195.1

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH152 TEST DATE = 06-25-82 LCLCAT = CAT ANECH CH CONFIG = 6

WIND DIR = SB59 DEG WIND VEL = NO MPH PWL AREA = FULL SPHERE TAMB F = 80.00 MIKE HT = 29.45

FNINI = LBS XNLR = RPM XNHR = RPM V8 = 2462.0 FPS AEB = 19.9 SQ IN

NRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2462.0 FPS AEB = 19.9 SQ IN

PT = 1 ER-0621 TAPE = X0621F TEST PT NO = 0621 NC = AE048 CORR FAN SPEED = RPM

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OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0621 X06211

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

| | | | | | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|-------|-------|------|------|-------|
| 50 | 66.7 | 71.2 | 73.1 | 73.8 | 76.3 | 77.1 | 84.8 | 81.1 | 84.3 | 92.6 | 94.7 | 94.2 | 169.5 |
| 63 | 67.5 | 71.5 | 73.1 | 74.9 | 77.1 | 78.4 | 79.4 | 82.1 | 85.9 | 93.9 | 97.0 | 94.9 | 170.8 |
| 80 | 68.2 | 72.8 | 75.2 | 76.4 | 78.2 | 79.9 | 81.4 | 83.7 | 86.9 | 96.4 | 97.7 | 95.4 | 171.9 |
| 100 | 72.0 | 74.9 | 77.5 | 78.0 | 81.0 | 82.3 | 85.5 | 89.0 | 97.2 | 99.5 | 95.7 | 90.7 | 173.0 |
| 125 | 76.5 | 79.4 | 80.8 | 80.1 | 81.3 | 82.3 | 84.1 | 86.3 | 89.8 | 97.3 | 99.8 | 96.4 | 173.5 |
| 160 | 75.3 | 82.5 | 84.1 | 84.2 | 84.9 | 84.9 | 85.4 | 86.9 | 90.4 | 96.6 | 99.8 | 95.7 | 173.5 |
| 200 | 75.4 | 78.3 | 81.1 | 81.9 | 83.9 | 84.9 | 85.8 | 87.7 | 90.6 | 95.2 | 99.0 | 94.2 | 172.7 |
| 250 | 76.0 | 78.4 | 80.8 | 80.7 | 82.2 | 83.0 | 84.8 | 87.9 | 90.3 | 94.4 | 97.7 | 91.2 | 171.5 |
| 315 | 77.2 | 80.0 | 81.7 | 81.1 | 82.4 | 83.4 | 84.9 | 87.8 | 89.4 | 94.5 | 95.4 | 88.9 | 170.5 |
| 400 | 75.2 | 78.7 | 80.5 | 80.8 | 82.4 | 83.6 | 85.1 | 87.8 | 89.6 | 92.6 | 94.3 | 87.1 | 169.9 |
| 500 | 72.1 | 76.0 | 79.0 | 79.4 | 81.4 | 82.8 | 84.3 | 86.9 | 88.4 | 90.5 | 91.3 | 85.1 | 168.2 |
| 630 | 71.7 | 76.3 | 79.1 | 79.2 | 80.9 | 82.3 | 83.8 | 86.3 | 87.9 | 90.1 | 90.4 | 83.3 | 168.0 |
| 800 | 70.9 | 75.4 | 77.7 | 78.1 | 80.8 | 81.7 | 83.3 | 86.2 | 86.8 | 88.2 | 87.8 | 80.9 | 166.9 |
| 1000 | 70.1 | 75.1 | 78.0 | 77.8 | 79.4 | 81.1 | 82.4 | 84.7 | 85.7 | 86.2 | 85.6 | 78.3 | 165.9 |
| 1250 | 69.7 | 76.0 | 79.4 | 78.9 | 79.5 | 81.2 | 82.0 | 84.1 | 84.7 | 85.5 | 83.6 | 77.4 | 165.9 |
| 1600 | 68.4 | 74.6 | 79.3 | 80.4 | 81.1 | 81.3 | 81.4 | 82.4 | 83.1 | 82.8 | 81.4 | 74.6 | 165.9 |
| 2000 | 65.0 | 71.9 | 76.6 | 77.7 | 81.0 | 81.2 | 80.3 | 80.9 | 80.7 | 77.7 | 76.2 | 71.2 | 165.7 |
| 2500 | 61.2 | 67.7 | 73.0 | 74.7 | 77.8 | 79.4 | 78.4 | 78.0 | 77.7 | 76.2 | 76.0 | 66.8 | 165.6 |
| 3150 | 55.4 | 63.2 | 69.7 | 71.8 | 74.9 | 76.5 | 75.6 | 74.2 | 74.2 | 70.3 | 60.3 | 41.0 | 166.2 |
| 4000 | 42.9 | 54.2 | 60.4 | 62.8 | 67.1 | 69.6 | 68.2 | 66.8 | 65.9 | 64.6 | 60.3 | 47.2 | 165.2 |
| 5000 | 30.2 | 44.2 | 52.4 | 54.9 | 60.0 | 62.1 | 61.2 | 59.2 | 58.2 | 55.3 | 49.3 | 31.3 | 167.3 |
| 6300 | 9.5 | 26.6 | 37.8 | 41.3 | 47.9 | 50.1 | 48.1 | 45.3 | 43.7 | 40.2 | 30.4 | 4.5 | 169.8 |
| 8000 | 12.8 | 19.0 | 26.3 | 28.5 | 25.4 | 23.6 | 19.5 | 14.0 | 172.8 | 175.6 | | | |

TO
FROM
ORIGINAL

MODEL AREA = 128.3 SQ CM (19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9
NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH152 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 0. FPS
IAPLHA = S859 TEGA = NO PWL AREA = FULL SPHERE TAMG F = 80.00 PAMB HG = 29.45 RELHUM = 41.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HI = NBFR
FNINI = LBS XNL = RPM XNH = RPM V8 = 2462.0 FPS AEB = 19.9 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2462.0 FPS AEB = 19.9 SQ IN
RUNPT = 82F-ZER-0621 TAPE = X06211 TEST PT NO = 0621 NC = AE048 CORR TAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0622 X0622C
BACKGROUND 82F-400-0600 X06000

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PWL | 85.5 | 86.3 | 85.8 | 82.1 | 84.0 | 81.6 | 87.2 | 84.9 | 87.3 | 85.2 | 91.8 | 91.7 | 95.4 |
| 50 | 85.5 | 86.3 | 85.8 | 82.1 | 84.0 | 81.6 | 87.2 | 84.9 | 87.3 | 85.2 | 91.8 | 91.7 | 95.4 |
| 63 | 86.5 | 87.3 | 86.7 | 83.7 | 85.6 | 83.1 | 89.1 | 86.8 | 89.3 | 87.1 | 93.7 | 93.4 | 96.3 |
| 80 | 88.4 | 89.2 | 88.6 | 85.9 | 87.8 | 85.3 | 91.3 | 89.0 | 91.5 | 89.2 | 95.8 | 95.6 | 98.5 |
| 100 | 89.2 | 90.0 | 89.4 | 86.7 | 88.6 | 86.1 | 92.0 | 89.7 | 92.3 | 90.0 | 96.4 | 96.2 | 99.1 |
| 125 | 89.1 | 89.9 | 89.3 | 86.6 | 88.5 | 86.0 | 92.3 | 90.0 | 92.6 | 90.3 | 96.7 | 96.5 | 99.4 |
| 160 | 88.8 | 89.6 | 89.0 | 86.3 | 88.2 | 85.7 | 91.7 | 89.4 | 91.9 | 89.6 | 96.0 | 95.8 | 98.7 |
| 200 | 84.1 | 84.9 | 84.3 | 81.6 | 83.5 | 81.0 | 87.0 | 84.7 | 87.2 | 84.9 | 91.3 | 91.1 | 94.0 |
| 250 | 82.8 | 83.6 | 83.0 | 80.3 | 82.2 | 79.7 | 85.7 | 83.4 | 85.9 | 83.6 | 89.9 | 89.7 | 92.6 |
| 315 | 82.5 | 83.3 | 82.7 | 80.0 | 81.9 | 79.4 | 85.4 | 83.1 | 85.6 | 83.3 | 89.6 | 89.4 | 92.3 |
| 400 | 84.1 | 84.9 | 84.3 | 81.6 | 83.5 | 81.0 | 87.0 | 84.7 | 87.2 | 84.9 | 91.3 | 91.1 | 94.0 |
| 500 | 84.7 | 85.5 | 84.9 | 82.2 | 84.1 | 81.6 | 87.1 | 84.8 | 87.3 | 85.0 | 91.4 | 91.2 | 94.1 |
| 630 | 85.3 | 86.1 | 85.5 | 83.0 | 84.9 | 82.4 | 88.4 | 86.1 | 88.6 | 86.3 | 92.4 | 92.2 | 95.1 |
| 800 | 87.9 | 88.7 | 88.1 | 85.4 | 87.3 | 84.8 | 90.8 | 88.5 | 91.0 | 88.7 | 94.9 | 94.7 | 97.6 |
| 1000 | 92.0 | 92.8 | 92.2 | 89.5 | 91.4 | 88.9 | 94.9 | 92.6 | 95.1 | 92.8 | 99.0 | 98.8 | 101.7 |
| 1250 | 91.3 | 92.1 | 91.5 | 88.8 | 90.7 | 88.2 | 94.2 | 91.9 | 94.4 | 92.1 | 98.3 | 98.1 | 101.0 |
| 1600 | 92.6 | 93.4 | 92.8 | 90.1 | 92.0 | 89.5 | 95.5 | 93.2 | 95.7 | 93.4 | 99.6 | 99.4 | 102.5 |
| 2000 | 94.6 | 95.4 | 94.8 | 91.9 | 93.8 | 91.3 | 97.8 | 95.5 | 98.0 | 95.7 | 101.9 | 101.7 | 104.8 |
| 2500 | 94.1 | 94.9 | 94.3 | 91.4 | 93.3 | 90.8 | 96.8 | 94.5 | 97.0 | 94.7 | 100.9 | 100.7 | 103.8 |
| 3150 | 93.1 | 93.9 | 93.3 | 90.4 | 92.3 | 89.8 | 95.8 | 93.5 | 96.0 | 93.7 | 99.9 | 99.7 | 102.8 |
| 4000 | 92.0 | 92.8 | 92.2 | 89.5 | 91.4 | 88.9 | 94.9 | 92.6 | 95.1 | 92.8 | 99.0 | 98.8 | 101.9 |
| 5000 | 93.1 | 93.9 | 93.3 | 90.4 | 92.3 | 89.8 | 95.8 | 93.5 | 96.0 | 93.7 | 99.9 | 99.7 | 102.8 |
| 6000 | 93.4 | 94.2 | 93.6 | 90.7 | 92.6 | 90.1 | 96.1 | 93.8 | 96.3 | 94.0 | 100.0 | 99.8 | 102.9 |
| 8000 | 94.5 | 95.3 | 94.7 | 91.8 | 93.7 | 91.2 | 97.1 | 94.8 | 97.2 | 94.9 | 101.1 | 100.9 | 104.0 |
| 10000 | 97.3 | 98.1 | 97.5 | 94.6 | 96.5 | 94.0 | 99.9 | 97.6 | 100.0 | 97.7 | 102.9 | 102.7 | 105.8 |
| 12500 | 97.2 | 98.0 | 97.4 | 94.5 | 96.4 | 93.9 | 99.8 | 97.5 | 100.0 | 97.7 | 102.9 | 102.7 | 105.8 |
| 16000 | 94.1 | 94.9 | 94.3 | 91.4 | 93.3 | 90.8 | 96.8 | 94.5 | 97.0 | 94.7 | 100.0 | 99.8 | 102.9 |
| 20000 | 91.7 | 92.5 | 91.9 | 89.0 | 90.9 | 88.4 | 94.4 | 92.1 | 94.5 | 92.2 | 98.2 | 98.0 | 101.1 |
| 25000 | 89.6 | 90.4 | 89.8 | 86.9 | 88.8 | 86.3 | 92.8 | 90.5 | 92.9 | 90.6 | 96.5 | 96.3 | 99.4 |
| 31500 | 87.2 | 88.0 | 87.4 | 84.5 | 86.4 | 83.9 | 90.2 | 87.9 | 90.2 | 87.9 | 93.8 | 93.6 | 96.9 |
| 40000 | 79.6 | 80.4 | 79.8 | 76.9 | 78.8 | 76.3 | 82.3 | 80.0 | 82.3 | 80.0 | 85.9 | 85.7 | 89.0 |
| 50000 | 76.4 | 77.2 | 76.6 | 73.7 | 75.6 | 73.1 | 79.1 | 76.8 | 79.1 | 76.8 | 82.7 | 82.5 | 85.8 |
| 63000 | 71.8 | 72.6 | 72.0 | 69.1 | 71.0 | 68.5 | 74.5 | 72.2 | 74.5 | 72.2 | 78.1 | 77.9 | 81.2 |
| 80000 | 65.9 | 66.7 | 66.1 | 63.2 | 65.1 | 62.6 | 68.6 | 66.3 | 68.6 | 66.3 | 72.2 | 72.0 | 75.3 |
| QASPL | 106.2 | 107.0 | 107.6 | 104.7 | 106.5 | 104.0 | 110.0 | 107.7 | 110.0 | 107.7 | 113.9 | 113.7 | 116.8 |
| PWL | 117.5 | 118.3 | 118.7 | 115.8 | 117.6 | 115.1 | 121.1 | 118.8 | 121.1 | 118.8 | 124.9 | 124.7 | 127.8 |
| DBA | 104.5 | 105.3 | 105.7 | 102.8 | 104.6 | 102.1 | 108.0 | 105.7 | 108.0 | 105.7 | 111.9 | 111.7 | 114.8 |

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICLE = ADH163 TEST DATE = 06-25-82
 WIND DIR = 085 DEG WIND VEL = 0 MPH
 PWL AREA = FULL SPHERE EXT DIST = 40.0 FT
 LOCAT = C41 ANECH CH CONFIG = 6
 MODEL = AX
 FLTVL = 400. FPS
 RELHUM = 59.2 PCT
 NBFR =
 TAMF = 83.00
 MIKE HT = 29.25
 PAMB HG = 29.25
 EXT CONFIG = ARC
 CONFIG = 6
 FPS AE8 = 2460.7 FPS
 AE8 = 19.9 SQ IN
 FPS AE18 = 0. SQ IN
 CORR FAN SPEED = RPM
 NC = AE048
 TEST PT NO = 0622
 RPM XNHR =
 XNH =
 RPM XNLR =
 LBS XNL =
 FNRMB =
 INPT = 82F-400-0622 TAPE = X0622C

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0622 X0622F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

200
160
125
100
80
63
50
40

250 90.1 92.1 90.8 90.3 89.5 89.3 89.6 90.5 94.1 100.3 105.1 109.0 110.5 142.6
315 90.1 92.1 90.8 90.3 91.4 90.7 95.3 92.0 91.3 95.4 103.2 108.2 111.4 144.6
400 90.2 91.9 91.5 90.3 91.4 90.7 95.3 92.0 91.3 95.4 103.2 108.2 111.4 144.6
500 81.8 92.6 92.1 90.1 92.3 91.8 92.9 93.9 99.8 110.1 115.1 115.1 113.5 149.3
630 92.6 93.0 92.3 92.9 92.7 94.1 96.0 102.6 111.5 117.6 115.7 114.6 151.0
800 92.9 94.0 95.1 93.1 94.6 94.5 95.2 98.4 103.6 112.1 116.7 116.3 151.6
1000 95.6 94.6 95.3 94.6 95.3 95.5 96.9 98.7 104.4 110.9 116.8 115.1 114.3 151.5
1250 97.6 96.4 97.0 94.8 98.3 96.9 98.0 99.5 105.3 110.0 118.3 114.0 113.6 151.0
1600 97.4 101.0 100.5 98.4 99.5 99.0 99.8 100.9 105.6 111.1 114.9 112.2 112.1 149.1
2000 100.3 98.8 100.0 98.1 97.6 98.2 99.3 101.5 105.6 111.1 114.9 112.2 112.1 149.1
2500 99.9 99.5 99.0 97.2 98.6 98.8 99.5 102.0 106.6 110.2 114.0 110.2 111.6 148.6
3150 99.6 101.6 101.5 99.1 100.6 100.2 101.1 102.8 106.3 109.6 111.5 108.2 109.9 147.6
4000 100.7 101.1 101.3 100.6 100.3 100.7 100.6 103.3 109.0 109.7 108.9 108.9 108.9 147.3
5000 99.5 99.9 100.5 99.2 99.9 101.1 101.6 103.1 105.9 106.1 109.1 105.8 108.4 146.6
6300 100.5 101.0 100.7 100.0 100.5 100.2 101.1 103.5 105.5 106.5 107.4 103.9 106.3 146.0
8000 100.7 101.0 101.0 99.7 100.4 100.4 100.6 107.2 107.6 107.2 104.6 106.9 146.7
10000 100.7 101.6 101.8 99.6 101.2 102.0 101.7 103.1 106.7 107.9 107.3 106.0 108.3 147.9
12500 102.0 103.4 103.8 100.7 104.4 103.7 102.8 103.4 106.7 106.8 107.5 105.8 107.8 149.2
16000 102.9 104.5 107.5 104.4 105.2 103.4 103.1 103.6 104.3 104.7 105.1 104.0 106.0 150.5
20000 100.1 102.0 103.8 102.1 102.1 102.1 101.3 101.0 104.0 104.4 103.8 103.5 105.0 150.3
25000 97.0 98.6 100.1 98.4 100.9 100.5 99.4 100.1 100.3 100.1 100.1 100.6 149.9
31500 94.1 95.8 97.7 96.1 96.8 97.0 95.7 94.8 98.6 97.6 98.5 96.6 97.4 149.9
40000 89.7 92.4 93.5 91.4 93.9 92.8 91.9 96.1 95.2 94.9 92.9 92.9 92.9 150.7
50000 85.7 88.7 90.8 88.1 90.9 89.2 88.6 89.2 93.9 92.0 87.2 85.5 152.0
63000 81.5 84.2 86.3 83.7 86.0 87.5 84.7 84.3 91.2 92.5 89.3 81.7 77.9 154.3
80000 75.5 79.0 81.6 78.8 82.3 83.3 79.5 79.1 81.4 82.7 79.5 71.9 68.0 154.1
CASPL 112.1 113.1 114.0 112.0 113.1 112.9 113.0 114.4 117.9 122.1 127.0 124.6 124.4 164.1
PNL 123.1 123.8 123.8 122.6 123.1 123.2 123.8 125.8 129.4 133.3 137.0 134.1 135.0
PNLT 123.1 125.0 123.8 122.6 123.1 123.2 123.8 125.8 129.4 133.3 137.0 134.1 135.0
DBA 197.4 200.6 203.0 200.3 204.0 204.6 201.1 200.7 204.7 205.9 202.9 195.8 192.7

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514

VEHICL = ADH163 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 83.00 PAMB HG = 29.25 RELHUM = 59.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2460.7 FPS AEB AE18 = 19.9 SO IN
FNRAMB = LBS XNLR = RPM V18 = 2460.7 FPS AE18 = 19.9 SO IN

RUNPT = 82F-400-0622 TAPE = X0622F TEST PT NO = 0622 NC = AE048 CORR FAN SPEED = RPM

DATPROC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0622 X06221

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| 50 | 69.2 | 72.5 | 73.2 | 72.6 | 74.2 | 73.6 | 78.0 | 74.3 | 79.2 | 87.4 | 91.3 | 89.9 | 85.5 |
| 63 | 70.8 | 73.1 | 73.8 | 72.5 | 75.0 | 74.7 | 75.6 | 76.2 | 81.4 | 90.7 | 94.1 | 91.9 | 86.9 |
| 80 | 71.3 | 73.1 | 74.6 | 74.6 | 75.6 | 75.6 | 76.8 | 78.3 | 84.4 | 92.0 | 96.5 | 92.4 | 87.9 |
| 100 | 71.8 | 74.4 | 76.6 | 75.4 | 77.3 | 77.3 | 77.9 | 80.6 | 85.4 | 92.5 | 97.6 | 92.9 | 87.7 |
| 125 | 74.3 | 75.0 | 76.7 | 76.8 | 77.9 | 78.2 | 79.5 | 80.9 | 85.9 | 91.3 | 97.5 | 92.2 | 86.9 |
| 160 | 76.1 | 76.6 | 78.3 | 76.8 | 80.7 | 79.5 | 80.5 | 81.6 | 86.6 | 90.2 | 96.9 | 90.2 | 86.2 |
| 200 | 75.7 | 81.0 | 81.6 | 80.3 | 81.9 | 81.4 | 82.1 | 82.8 | 86.8 | 91.4 | 94.7 | 88.1 | 85.6 |
| 250 | 78.3 | 78.5 | 80.8 | 79.8 | 80.5 | 81.3 | 83.2 | 83.4 | 87.2 | 89.6 | 91.6 | 85.1 | 83.6 |
| 315 | 77.5 | 78.9 | 79.6 | 78.6 | 80.5 | 80.8 | 81.3 | 83.4 | 87.2 | 89.6 | 91.6 | 85.1 | 83.6 |
| 400 | 76.7 | 80.6 | 81.7 | 80.2 | 82.1 | 81.9 | 82.7 | 83.8 | 86.5 | 88.5 | 88.6 | 82.5 | 79.5 |
| 500 | 77.3 | 79.7 | 81.2 | 81.4 | 81.6 | 82.1 | 82.6 | 83.6 | 85.4 | 87.5 | 87.3 | 80.6 | 77.5 |
| 630 | 75.6 | 78.1 | 80.1 | 79.7 | 80.9 | 82.2 | 82.6 | 83.6 | 85.4 | 87.5 | 87.3 | 80.6 | 77.5 |
| 800 | 76.1 | 78.8 | 80.0 | 80.2 | 81.3 | 81.1 | 81.8 | 83.8 | 84.7 | 84.3 | 83.1 | 76.1 | 72.7 |
| 1000 | 75.9 | 78.8 | 80.0 | 79.8 | 80.4 | 81.2 | 81.0 | 83.4 | 85.3 | 85.1 | 82.4 | 76.2 | 72.2 |
| 1250 | 75.3 | 78.5 | 80.6 | 79.5 | 81.6 | 82.7 | 82.2 | 82.9 | 85.5 | 85.1 | 82.4 | 76.2 | 72.2 |
| 1600 | 75.8 | 80.0 | 82.2 | 80.3 | 84.6 | 84.1 | 83.0 | 83.0 | 85.1 | 83.4 | 81.3 | 75.3 | 69.3 |
| 2000 | 75.7 | 80.4 | 85.6 | 83.7 | 85.2 | 83.7 | 83.1 | 82.9 | 82.3 | 80.7 | 78.0 | 71.8 | 64.6 |
| 2500 | 71.1 | 76.7 | 80.9 | 80.8 | 81.5 | 81.8 | 80.8 | 79.6 | 79.2 | 74.9 | 68.5 | 58.6 | 46.8 |
| 3150 | 64.7 | 70.9 | 75.3 | 75.5 | 79.3 | 78.6 | 76.4 | 75.4 | 72.6 | 67.8 | 60.1 | 45.8 | 28.1 |
| 4000 | 55.5 | 63.4 | 69.1 | 69.9 | 71.9 | 72.6 | 70.8 | 68.6 | 65.2 | 60.0 | 47.6 | 30.2 | 1.7 |
| 5000 | 41.4 | 52.7 | 58.7 | 59.7 | 64.2 | 62.9 | 60.3 | 61.3 | 55.3 | 46.6 | 30.2 | 1.7 | 169.1 |
| 6300 | 19.6 | 34.5 | 43.9 | 45.7 | 50.9 | 51.8 | 49.3 | 46.2 | 46.1 | 39.8 | 25.8 | 0.4 | 170.4 |
| 8000 | 5.2 | 18.1 | 22.0 | 29.9 | 30.6 | 26.6 | 22.7 | 23.0 | 13.5 | 0.4 | 170.4 | 172.8 | 172.6 |

80000
63000
50000
40000
31500
25000
20000
16000
12500
10000

OASPL 87.9 90.8 93.0 92.1 93.7 93.7 93.8 94.9 97.8 101.5 105.2 100.3 96.0 182.5
PNL 96.3 100.3 104.0 102.9 104.6 104.1 103.8 104.0 105.6 106.1 107.4 101.5 97.3
PNLT 96.3 101.0 105.3 103.9 104.6 104.7 103.8 104.5 105.6 106.7 107.4 102.9 97.3
DBA 85.1 88.7 91.6 90.6 92.5 92.3 91.9 92.6 94.3 94.6 94.5 88.3 84.7

MODEL AREA = 128.3 SQ CM (19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICLE = ADH163 TEST DATE = 06-25-82
IAPLHA = S859 LEGA
WIND DIR = DEG WIND VEL = MPH
LOCALT = C41 ANECH CH CONFIG = 6
MODEL = AX
FLIVEL = 400. FPS
RELHUM = 59.2 PCT
MIKE HT =
PAMB HG = 29.25
EXT DIST = 2400.0 FT
EXT CONFIG = SL
TAMB F = 83.00
PWL AREA = FULL SPHERE
XNHR =
XNL =
LBS XNLR =
RPM =
V8 =
FPS AER =
AE18 =
O. 50 IN
CORR FAN SPEED =
RPM =

ORIGINAL PAGE 18
OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

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OF POOR QUALITY

| IDENTIFICATION - MODEL | | 82F-ZER-0623 | | X0623C | | BACKGROUND 82F-400-0600 | | ANGLES MEASURED FROM INLET, DEGREES | | FREQ | |
|------------------------|------|--------------|-------|--------|-------|-------------------------|-------|-------------------------------------|-------|-------|-------|
| 50 | 82.8 | 83.3 | 83.8 | 83.1 | 83.2 | 81.1 | 86.2 | 84.9 | 87.1 | 86.4 | 93.8 |
| 60 | 87.0 | 91.5 | 93.0 | 91.1 | 92.6 | 89.5 | 95.6 | 93.1 | 93.5 | 93.3 | 97.7 |
| 80 | 88.9 | 93.5 | 90.0 | 90.5 | 91.1 | 93.2 | 93.1 | 94.0 | 94.9 | 94.3 | 99.7 |
| 100 | 89.5 | 96.7 | 92.3 | 93.1 | 94.4 | 94.0 | 94.9 | 96.3 | 94.3 | 96.8 | 103.7 |
| 125 | 86.1 | 90.4 | 92.9 | 95.0 | 95.7 | 96.3 | 96.9 | 98.7 | 104.6 | 107.8 | 142.1 |
| 160 | 86.0 | 85.8 | 90.3 | 88.8 | 90.4 | 91.3 | 97.7 | 94.1 | 95.1 | 99.4 | 143.2 |
| 200 | 88.1 | 87.6 | 89.4 | 89.9 | 91.8 | 94.4 | 95.8 | 95.9 | 99.4 | 101.2 | 144.9 |
| 250 | 87.8 | 90.3 | 91.3 | 92.4 | 92.5 | 93.8 | 95.8 | 98.4 | 102.6 | 109.9 | 148.8 |
| 315 | 86.8 | 90.6 | 90.8 | 91.4 | 93.5 | 95.3 | 98.0 | 98.4 | 102.6 | 109.9 | 150.3 |
| 400 | 88.4 | 91.7 | 92.4 | 92.2 | 94.6 | 95.2 | 102.6 | 99.2 | 103.7 | 113.3 | 152.1 |
| 500 | 89.5 | 91.7 | 93.0 | 93.5 | 94.9 | 96.5 | 97.6 | 100.5 | 105.3 | 115.3 | 153.5 |
| 630 | 90.3 | 92.3 | 94.3 | 94.6 | 95.9 | 97.8 | 99.3 | 101.9 | 106.6 | 117.1 | 154.7 |
| 800 | 94.2 | 94.9 | 96.5 | 96.0 | 97.6 | 99.0 | 100.6 | 104.2 | 108.5 | 118.5 | 155.7 |
| 1000 | 98.5 | 100.1 | 100.3 | 98.6 | 99.2 | 100.1 | 102.2 | 105.4 | 109.6 | 118.7 | 155.9 |
| 1250 | 97.5 | 103.3 | 103.4 | 102.6 | 102.7 | 104.5 | 106.6 | 110.7 | 117.5 | 121.9 | 155.9 |
| 1600 | 99.1 | 99.0 | 101.2 | 100.2 | 102.6 | 102.7 | 104.5 | 106.6 | 110.7 | 117.5 | 155.9 |
| 2000 | 99.8 | 100.4 | 101.4 | 99.7 | 100.1 | 101.7 | 103.9 | 107.0 | 110.9 | 117.1 | 154.0 |
| 2500 | 99.8 | 101.6 | 102.7 | 101.4 | 101.8 | 101.9 | 103.8 | 107.2 | 110.6 | 117.1 | 153.2 |
| 3150 | 98.7 | 99.7 | 101.0 | 101.0 | 102.1 | 103.2 | 104.0 | 107.3 | 110.6 | 115.9 | 152.5 |
| 4000 | 95.8 | 97.4 | 99.6 | 99.6 | 101.2 | 102.6 | 104.0 | 107.3 | 109.5 | 114.4 | 151.0 |
| 5000 | 96.1 | 97.6 | 99.0 | 99.2 | 100.2 | 102.4 | 104.3 | 106.8 | 109.8 | 113.9 | 150.8 |
| 6300 | 95.3 | 97.8 | 98.9 | 98.1 | 100.6 | 100.8 | 103.6 | 106.7 | 109.0 | 111.9 | 149.7 |
| 8000 | 95.0 | 98.1 | 99.2 | 98.3 | 99.5 | 100.8 | 102.5 | 106.1 | 108.1 | 110.7 | 148.7 |
| 10000 | 94.3 | 97.8 | 99.1 | 99.1 | 100.0 | 101.3 | 102.5 | 105.3 | 107.4 | 109.8 | 148.6 |
| 12500 | 93.9 | 96.1 | 99.6 | 99.6 | 100.4 | 100.6 | 101.7 | 103.6 | 105.5 | 107.7 | 147.9 |
| 16000 | 92.1 | 95.6 | 97.8 | 98.4 | 100.2 | 100.7 | 102.6 | 105.4 | 106.5 | 104.0 | 147.7 |
| 20000 | 89.4 | 92.7 | 95.6 | 96.4 | 98.9 | 99.6 | 99.7 | 99.6 | 101.3 | 103.2 | 147.7 |
| 25000 | 86.9 | 90.7 | 93.9 | 94.2 | 96.8 | 97.6 | 97.8 | 97.4 | 100.2 | 102.8 | 148.4 |
| 31500 | 80.9 | 86.7 | 89.0 | 89.2 | 92.4 | 93.8 | 94.0 | 94.0 | 99.5 | 99.8 | 147.6 |
| 40000 | 78.3 | 83.0 | 87.0 | 86.2 | 90.3 | 91.4 | 91.8 | 94.0 | 99.5 | 98.6 | 150.3 |
| 50000 | 75.4 | 80.3 | | | | | | | | | |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0623 X0623F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREQ 50 60 70 80 90 100 110 120 130 140 150 160

50 60 70 80 90 100 110 120 130 140 150 160

60 70 80 90 100 110 120 130 140 150 160

70 80 90 100 110 120 130 140 150 160

80 90 100 110 120 130 140 150 160

90 100 110 120 130 140 150 160

100 110 120 130 140 150 160

110 120 130 140 150 160

120 130 140 150 160

130 140 150 160

140 150 160

150 160

160

170

180

190

200

210

220

230

240

250

260

270

280

290

300

310

320

330

340

350

360

370

380

390

400

410

420

430

440

450

460

470

480

490

500

ORIGINAL PAGE IS
OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES
NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICLE = ADH153 TEST DATE = 06-25-82
IAPLHA = S859 DEG WIND VEL = NO
WIND DIR = S859 PWL AREA = FULL SPHERE
EXT DIST = 40.0 FT
EXT CNFIG = ARC
MIKE HT =
PAMB HG = 29.40
RELHUM = 41.5 PCT
FLTVEL = 0. FPS
MODEL = AX
NBFR =

FNINI = LBS XNLR = RPM XNHR = RPM
LBS XNLR = RPM
V8 = 2509.2 FPS
AE8 = 19.9 SQ IN
CORR FAN SPEED = RPM
NC = AE048
TEST PT NO = 0623
X0623F

DATPROC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0623 X06231

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.
PWL

50 67.4 72.2 74.1 74.6 77.3 78.1 85.3 81.6 85.3 93.8 95.9 95.2 90.2 170.6
63 68.5 72.3 74.6 75.9 77.6 79.4 80.4 82.9 86.9 95.9 98.2 95.7 90.5 172.0
80 69.2 72.8 75.9 76.9 78.7 80.7 81.9 84.2 87.7 97.6 99.2 96.7 91.4 173.2
100 73.0 75.4 78.0 78.3 80.3 81.8 83.3 86.5 90.0 99.0 100.5 96.7 91.2 174.1
125 77.3 80.4 81.8 80.8 81.8 82.8 84.8 87.6 91.0 99.0 100.6 96.9 90.6 174.4
160 76.1 83.5 84.9 85.4 85.7 86.4 87.9 91.4 98.6 100.3 96.2 90.0 174.3
200 77.4 79.0 82.3 82.1 84.9 85.1 86.8 88.5 91.8 97.5 100.2 93.7 87.4 173.7
250 77.8 82.3 81.4 82.2 83.0 86.1 88.7 91.8 96.9 98.2 91.5 85.2 172.5
315 77.4 81.0 83.2 82.8 83.6 83.9 85.7 88.6 91.1 96.5 95.9 89.9 82.3 171.6
400 75.7 78.7 81.2 82.1 83.6 84.9 86.6 88.6 90.8 94.9 94.8 87.9 80.3 171.0
500 72.4 76.0 79.5 80.4 82.4 84.1 85.3 88.1 89.4 93.0 91.8 86.1 78.1 169.4
630 72.2 75.8 78.6 79.7 81.2 83.6 85.3 87.3 89.4 92.1 91.1 84.3 75.7 169.2
800 70.9 75.6 78.2 79.4 81.3 81.7 84.3 87.0 88.3 89.7 88.8 82.7 74.2 168.2
1000 70.1 75.6 78.2 78.3 80.2 81.6 83.2 86.2 87.2 88.2 86.4 79.2 71.1 167.2
1250 69.0 75.0 78.9 80.5 82.0 83.0 85.1 86.2 87.0 84.3 81.9 75.8 64.7 166.4
1600 67.7 72.6 78.0 79.2 80.6 81.0 81.9 83.2 83.9 84.3 81.9 75.8 64.7 166.4
2000 64.9 71.6 75.8 77.7 80.2 80.7 80.8 81.9 81.7 81.4 79.3 71.7 59.5 166.2
2500 60.5 67.5 72.8 75.0 78.3 79.4 79.2 78.2 78.4 76.2 67.8 53.0 166.2
3150 54.6 63.0 69.2 71.3 74.9 76.0 75.9 74.4 75.4 75.1 71.3 60.0 41.0 166.9
4000 42.4 54.2 60.4 63.1 67.5 69.3 68.1 66.8 67.4 67.1 61.3 46.9 20.5 166.0
5000 30.0 43.0 52.2 54.6 60.5 62.1 61.4 60.2 59.2 59.6 50.3 31.6 168.8
6300 9.3 26.1 37.0 41.3 47.4 49.9 48.1 46.3 45.4 44.5 30.6 5.5 171.4
8000 9.3 26.1 37.0 41.3 47.4 49.9 48.1 46.3 45.4 44.5 30.6 5.5 171.4
10000 12.1 19.0 25.3 28.0 25.6 23.9 21.5 17.8 174.2
12500 177.6

OASPL 86.2 90.1 92.5 92.9 94.4 95.3 97.0 99.0 101.6 107.7 109.1 105.0 99.2 185.5
PNL 90.9 95.4 99.1 100.2 102.5 103.6 104.3 105.6 107.2 111.3 111.7 106.0 98.9
PNLT 90.9 96.0 99.6 100.8 103.0 104.1 104.8 105.6 107.8 112.0 111.7 107.1 98.9
DBA 80.1 84.6 87.9 88.7 90.6 91.6 92.8 94.9 96.4 99.3 99.0 93.0 85.7

MODEL AREA = 128.3 SQ CM (19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH153 TEST DATE = 06-25-82 LOCAL = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVL = 0. FPS
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.40 RELHUM = 41.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBRF
FNNI1 = LBS XNL = RPM XNHR = RPM V8 = 2509.2 FPS AEB = 19.9 SQ IN
FNFRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2509.2 FPS AEB = 19.9 SQ IN
RUNPT = 82F-ZER-0623 TAPE = X06231 TEST PT NO = 0623 NC = AE048 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL
82F-400-0624 X0624C
BACKGROUND 82F-400-0600 X06000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 87.3 86.6 84.1 84.1 84.5 81.6 87.0 86.9 87.1 87.4 95.3 92.2 96.4 130.9

60 88.2 93.0 91.8 92.6 88.5 97.4 93.3 93.0 93.1 90.0 92.7 97.3 136.2

80 86.7 93.5 93.7 91.3 91.1 92.7 92.4 92.0 92.2 90.6 94.9 97.1 100.0 135.1

100 69.2 94.7 90.5 91.3 93.4 92.8 94.1 95.3 93.3 93.3 97.7 102.4 104.1 137.9

125 86.4 89.1 90.9 91.9 93.5 94.3 94.2 93.4 95.0 101.9 106.3 107.7 140.3

150 84.5 82.3 88.6 87.3 88.9 88.8 96.2 90.8 91.8 96.6 103.8 106.9 141.2

200 85.1 85.1 86.6 85.4 86.0 86.4 89.4 93.3 93.4 96.1 97.2 103.3 108.8 142.5

250 83.3 86.6 88.1 88.7 90.1 92.5 95.1 96.3 102.4 109.5 113.0 112.9 145.9

315 83.0 87.1 87.9 89.2 90.8 94.5 94.6 98.1 106.1 111.0 114.5 114.1 147.5

400 84.4 86.7 88.4 87.7 89.8 90.7 97.6 95.5 99.9 108.5 113.6 116.1 148.9

500 85.2 86.7 88.8 89.5 90.6 92.5 94.6 96.6 101.0 111.1 116.0 116.1 150.0

630 85.5 90.4 92.2 93.6 95.2 96.8 100.3 104.7 114.3 117.8 116.5 110.1 151.3

800 88.2 88.4 91.2 91.5 93.6 95.2 96.8 100.3 104.7 114.3 117.8 116.5 152.0

1000 93.0 93.6 93.4 95.0 95.6 98.7 101.6 105.6 114.4 119.8 114.5 105.4 152.2

1250 92.5 97.8 97.6 96.9 98.0 98.3 99.7 101.9 106.3 114.2 120.3 113.2 152.4

1500 93.4 93.5 95.7 95.7 98.1 99.2 101.3 103.3 107.2 113.0 119.7 112.9 151.8

2000 93.6 94.7 96.4 95.3 96.8 97.5 100.7 104.5 106.6 112.9 117.4 110.5 150.3

2500 93.6 95.1 96.7 96.9 97.5 98.4 100.1 104.4 106.8 112.8 115.6 108.4 149.3

3150 93.6 95.2 95.5 96.0 97.8 98.6 100.8 104.8 107.6 111.4 114.2 100.6 148.4

4000 92.7 93.7 95.8 96.9 98.6 98.9 100.5 104.6 107.6 111.1 105.4 98.7 146.9

5000 93.1 94.8 95.7 96.2 96.9 98.6 100.7 103.8 106.3 110.1 111.2 104.8 146.8

6300 93.7 95.5 96.3 95.5 97.7 98.4 100.5 104.1 106.4 107.7 107.8 102.8 145.5

8000 65.6 71.8 75.9 75.3 77.2 80.1 80.3 86.1 88.9 83.7 72.3 60.5 155.2

QASPL 106.2 108.4 109.5 109.4 110.6 111.8 113.3 115.7 118.2 124.0 128.5 125.2 121.7 163.8

PWL 117.8 119.5 120.4 120.4 121.9 123.2 125.5 128.2 130.9 135.8 139.2 134.4 129.6

PMLT 117.8 121.2 120.4 120.4 121.9 123.2 126.0 128.2 130.9 135.8 139.2 134.4 129.6

DBA 104.5 106.3 107.4 107.2 108.4 109.6 111.7 114.9 117.7 123.8 128.3 123.4 117.3

NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514

VEHICLE = ADH164 TEST DATE = 06-25-82 LOCAL = CAT ANECH CH CONFIG = 6 MODEL = AX FLTVL = 400. FPS
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE EXT DIST = 40.0 FT TAMB F = 83.00 PAMB HG = 29.25 RELHUM = 59.2 PCT
WIND DIR = DEG WIND/VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL RPM XNH RPM XNHR = RPM V8 = 2513.0 FPS AEB = 19.9 SQ IN
FNRM1B = LBS XNL RPM XNH RPM XNHR = RPM V18 = 2513.0 FPS AEB = 0. SQ IN

UNPT = 82F-400-0624 TAPE = X0624C TEST PT NO = 0624 NC = AE048 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0624 X0624F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

200
160
125
100
80
63
50
40

250 80.9 92.8 91.4 91.4 90.3 90.1 90.6 91.5 94.6 101.8 106.1 110.0 111.5 143.7
315 80.9 92.8 91.4 91.3 91.0 93.1 91.8 96.7 104.4 109.2 112.4 112.9 145.6
400 90.7 92.4 92.0 91.3 91.7 90.9 96.3 92.7 98.7 108.0 112.5 113.9 147.7
500 92.0 93.0 93.4 91.1 92.5 92.8 93.9 94.8 101.0 111.9 116.1 116.6 150.6
630 93.1 93.7 93.0 94.2 94.0 95.3 96.7 103.7 113.1 118.7 117.6 115.3 152.3
800 93.2 94.7 95.6 96.3 96.8 96.2 98.2 100.0 105.5 113.2 120.1 116.5 153.1
1000 95.8 94.9 96.3 95.1 96.8 96.2 98.2 100.0 105.5 113.2 120.1 116.5 153.1
1250 98.8 97.4 97.7 96.4 100.0 99.1 99.2 100.2 106.7 112.4 119.8 115.9 152.6
1500 98.8 103.3 102.1 100.2 100.5 100.2 100.8 103.5 107.0 112.8 118.1 114.8 151.8
2000 101.0 100.1 101.0 99.6 99.4 98.7 100.8 103.5 107.0 113.0 116.5 112.9 150.8
2500 100.3 100.6 101.3 99.0 100.5 100.0 100.4 103.7 108.3 112.1 115.7 113.1 150.3
3150 101.2 101.7 102.1 101.1 101.7 102.6 104.5 107.6 111.8 113.0 110.7 111.3 149.3
4000 101.2 101.9 101.0 100.4 100.6 101.2 101.8 105.1 107.5 111.1 112.9 109.9 149.0
5000 100.3 100.4 101.3 100.5 100.9 101.6 102.3 104.1 107.8 109.0 109.8 108.2 147.7
6300 100.5 101.5 101.5 101.0 101.7 101.4 102.1 104.5 106.8 108.3 108.5 105.7 147.3
8000 100.9 102.0 102.0 100.2 101.1 101.4 101.4 103.5 107.4 108.2 107.9 106.3 147.5
10000 101.7 102.9 102.3 101.0 102.0 102.7 102.4 104.0 108.1 108.3 107.7 106.3 148.6
12500 102.0 104.1 104.3 102.4 104.2 104.9 103.8 104.9 107.8 107.7 108.3 106.7 150.1
15000 103.2 103.6 105.3 104.1 104.7 104.9 104.4 104.9 106.6 105.7 106.8 105.5 151.0
20000 100.3 102.7 103.8 102.6 102.8 102.8 102.1 102.7 105.5 105.0 104.0 104.8 151.1
25000 97.0 98.4 100.1 99.4 101.9 101.4 100.5 100.3 101.2 100.5 100.7 100.1 150.4
31500 96.4 98.1 99.2 97.8 96.8 97.5 95.6 95.3 98.1 99.0 97.3 97.7 150.8
40000 89.7 92.4 93.0 91.9 94.6 94.6 93.3 92.3 96.0 95.6 92.4 92.8
50000 85.2 89.0 90.3 88.6 91.4 89.5 89.5 89.5 93.6 93.3 94.4 87.8 152.8
63000 81.0 84.7 85.8 83.4 87.2 88.0 84.4 85.2 93.6 95.9 91.0 82.6 156.0
80000 75.0 78.2 80.1 79.3 81.8 83.1 79.4 80.4 83.8 86.1 81.2 72.8 154.9

QASPL 112.7 113.8 114.2 112.9 113.7 113.9 114.0 115.6 119.3 123.7 128.2 126.2 125.5 165.3
PNL 123.7 124.5 124.6 123.5 123.9 124.2 125.0 127.1 130.7 135.2 138.4 135.9 136.2
DBA 196.9 200.3 200.7 203.5 204.6 201.0 201.9 207.0 209.2 204.6 196.6 192.7

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES
NASA SHOCK CELL/20 EL ANN C-D SUPP NGZ SC-6/NAS3-22514

VEHICL = ADH164 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6
IAPLHA = SB559 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 83.00 MIKE HT = 29.25 PAMB HG = 400. FPS
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC
FNINI = LBS XNL RPM XNH RPM V8 = 2513.0 FPS AE8 = 19.9 SO IN
FNRAMB = LBS XNLR RPM XNHR RPM V18 = 19.9 SO IN
RUNPT = 82F-400-0624 TAPE = X0624F TEST PT NG = 0624 NC = AE048 CORR FAN SPEED = RPM

ORIGINAL RECORD TO 100000

**ORIGINAL PAGE IS
OF POOR QUALITY**

DATPROC - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1605 X1605C

BACKGROUND 82F-400-0600

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|--|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | | | | | | | | | | | | PWL |
| 50 | 76.3 | 80.1 | 85.1 | 81.1 | 82.2 | 78.1 | 86.2 | 85.9 | 79.3 | 78.4 | 86.3 | 86.0 | 87.4 |
| 53 | 83.0 | 88.5 | 93.8 | 89.1 | 91.1 | 84.5 | 95.8 | 87.5 | 87.6 | 92.5 | 88.7 | 91.3 | 133.9 |
| 60 | 82.4 | 87.2 | 83.7 | 84.5 | 84.4 | 86.0 | 87.1 | 86.5 | 86.2 | 85.6 | 87.4 | 91.1 | 92.3 |
| 80 | 82.7 | 86.5 | 84.8 | 85.3 | 86.9 | 87.0 | 87.1 | 89.3 | 87.3 | 88.1 | 92.0 | 96.2 | 97.8 |
| 100 | 81.6 | 85.4 | 87.2 | 87.4 | 88.3 | 88.2 | 89.0 | 88.9 | 88.2 | 89.7 | 95.9 | 100.0 | 101.5 |
| 125 | 80.8 | 85.5 | 85.1 | 82.8 | 85.7 | 85.6 | 91.2 | 86.1 | 86.8 | 89.4 | 100.2 | 103.6 | 134.9 |
| 160 | 80.8 | 85.5 | 85.6 | 84.7 | 85.8 | 86.6 | 90.0 | 90.4 | 91.4 | 92.5 | 98.1 | 103.3 | 105.7 |
| 200 | 80.3 | 83.9 | 85.6 | 84.7 | 85.8 | 86.6 | 90.0 | 90.4 | 91.4 | 92.5 | 98.1 | 103.3 | 105.7 |
| 250 | 80.3 | 86.1 | 85.1 | 84.6 | 86.5 | 86.6 | 90.5 | 91.9 | 92.3 | 97.4 | 103.3 | 107.5 | 109.6 |
| 315 | 82.3 | 85.8 | 86.6 | 88.1 | 90.0 | 89.8 | 91.2 | 92.9 | 94.8 | 99.4 | 104.5 | 109.7 | 111.6 |
| 400 | 82.1 | 86.4 | 87.7 | 86.0 | 88.6 | 89.4 | 96.6 | 93.7 | 95.4 | 102.3 | 106.9 | 112.3 | 112.5 |
| 500 | 83.5 | 86.7 | 87.3 | 87.0 | 88.6 | 90.0 | 91.4 | 93.8 | 96.5 | 103.1 | 108.5 | 113.6 | 113.3 |
| 630 | 84.8 | 89.4 | 89.3 | 90.2 | 91.8 | 92.7 | 94.6 | 96.3 | 103.9 | 109.5 | 114.5 | 114.4 | 114.7 |
| 800 | 84.2 | 89.7 | 91.0 | 91.5 | 92.6 | 93.0 | 97.0 | 98.2 | 104.5 | 110.4 | 113.3 | 113.5 | 114.6 |
| 1000 | 92.8 | 94.6 | 95.3 | 93.9 | 94.2 | 93.6 | 94.5 | 97.4 | 99.1 | 104.7 | 108.5 | 112.5 | 112.1 |
| 1250 | 93.8 | 95.6 | 96.8 | 97.6 | 98.9 | 101.1 | 98.9 | 99.9 | 100.1 | 105.9 | 111.4 | 112.2 | 114.3 |
| 1600 | 91.9 | 92.3 | 93.4 | 93.2 | 94.8 | 95.2 | 96.5 | 98.3 | 100.2 | 104.0 | 108.6 | 109.6 | 143.7 |
| 2000 | 93.0 | 94.4 | 94.9 | 93.5 | 94.1 | 94.2 | 95.7 | 98.5 | 100.4 | 104.1 | 104.9 | 106.7 | 142.8 |
| 2500 | 97.6 | 97.1 | 97.7 | 97.2 | 97.8 | 97.1 | 96.6 | 98.7 | 99.8 | 104.3 | 103.6 | 105.2 | 142.6 |
| 3150 | 95.9 | 96.5 | 96.2 | 95.0 | 95.3 | 96.2 | 97.0 | 98.8 | 100.3 | 103.4 | 103.8 | 104.1 | 141.8 |
| 4000 | 96.3 | 96.7 | 96.8 | 96.1 | 95.4 | 95.1 | 95.7 | 98.3 | 100.1 | 102.2 | 101.5 | 101.5 | 141.4 |
| 5000 | 97.4 | 98.1 | 98.0 | 97.2 | 96.2 | 96.1 | 96.3 | 98.3 | 100.3 | 100.1 | 100.3 | 99.9 | 141.2 |
| 6300 | 97.0 | 97.8 | 97.4 | 97.5 | 96.2 | 96.8 | 98.2 | 98.6 | 99.2 | 100.3 | 100.1 | 99.7 | 141.2 |
| 8000 | 95.7 | 96.3 | 96.1 | 97.7 | 97.0 | 96.8 | 96.2 | 97.6 | 98.8 | 100.1 | 99.4 | 98.7 | 141.2 |
| 10000 | 95.7 | 96.7 | 96.5 | 96.5 | 96.7 | 99.0 | 97.5 | 98.2 | 99.3 | 99.4 | 99.6 | 99.1 | 142.4 |
| 12500 | 95.7 | 97.2 | 98.5 | 98.2 | 98.5 | 99.7 | 98.6 | 98.7 | 97.6 | 97.3 | 98.2 | 97.8 | 142.9 |
| 16000 | 92.9 | 95.9 | 97.3 | 97.1 | 98.5 | 97.9 | 97.8 | 98.4 | 97.0 | 95.4 | 96.2 | 97.5 | 143.0 |
| 20000 | 91.7 | 93.4 | 95.5 | 97.3 | 97.1 | 95.9 | 95.5 | 95.4 | 92.9 | 94.6 | 95.3 | 94.6 | 143.0 |
| 25000 | 88.6 | 91.0 | 94.0 | 94.1 | 96.1 | 96.7 | 95.9 | 94.2 | 94.0 | 91.5 | 91.7 | 93.4 | 144.1 |
| 31500 | 82.8 | 87.2 | 88.0 | 88.5 | 91.7 | 93.1 | 91.6 | 90.0 | 87.9 | 88.4 | 88.9 | 85.1 | 142.9 |
| 40000 | 80.2 | 84.0 | 86.7 | 86.3 | 89.4 | 90.5 | 89.6 | 88.3 | 88.0 | 85.8 | 86.7 | 85.8 | 144.8 |
| 50000 | 77.9 | 81.7 | 84.4 | 83.9 | 86.9 | 88.1 | 86.6 | 85.7 | 85.8 | 83.9 | 84.0 | 84.0 | 146.7 |
| 63000 | 73.9 | 78.4 | 81.2 | 81.0 | 83.7 | 85.1 | 82.3 | 82.9 | 83.6 | 81.4 | 81.3 | 80.8 | 148.9 |
| 80000 | 67.9 | 73.8 | 77.0 | 76.4 | 78.1 | 80.5 | 77.6 | 77.4 | 79.0 | 77.0 | 77.6 | 75.8 | 151.0 |
| CASPL | 107.0 | 108.5 | 109.6 | 108.8 | 109.4 | 109.7 | 109.8 | 110.9 | 111.7 | 115.5 | 118.6 | 122.2 | 159.2 |
| PNL | 119.4 | 120.6 | 120.2 | 120.5 | 120.7 | 120.5 | 121.4 | 123.0 | 124.3 | 127.6 | 129.1 | 131.2 | 131.8 |
| DBA | 106.5 | 107.5 | 108.2 | 107.3 | 107.6 | 107.9 | 107.9 | 109.7 | 111.1 | 115.1 | 117.7 | 120.7 | 121.0 |
| NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514 | | | | | | | | | | | | | |
| VEHICL | = ADH136 | | | | | | | | | | | | |
| IAPLHA | = SE59 | | | | | | | | | | | | |
| WIND DIR | = DEG | | | | | | | | | | | | |
| WIND VEL | = MPH | | | | | | | | | | | | |
| EXT DIST | = 40.0 FT | | | | | | | | | | | | |
| PWL AREA | = FULL SPHERE | | | | | | | | | | | | |
| TAMB F | = 79.00 | | | | | | | | | | | | |
| EXT CNFIG | = ARC | | | | | | | | | | | | |
| MIKE HT | = 29.50 | | | | | | | | | | | | |
| RELHUM | = 47.1 PCT | | | | | | | | | | | | |
| FLTVEL | = 0. FPS | | | | | | | | | | | | |
| MODEL | = AX | | | | | | | | | | | | |
| FNRMB | = 1700.9 FPS | | | | | | | | | | | | |
| AE8 | = 19.9 SQ IN | | | | | | | | | | | | |
| AE18 | = 0. SQ IN | | | | | | | | | | | | |
| CORR FAN SPEED | = RPM | | | | | | | | | | | | |
| TEST PT NO | = 1605 | | | | | | | | | | | | |
| NC | = AE048 | | | | | | | | | | | | |

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1605 X1605F

ANGLES MEASURED FROM INLET, DEGREES

| | | | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| FREQ | 50 | 78.3 | 80.1 | 85.1 | 81.1 | 82.2 | 78.1 | 86.2 | 85.9 | 79.3 | 78.4 | 86.3 | 86.0 | 87.4 | 125.6 | PWL |
| 63 | 83.0 | 88.5 | 93.8 | 89.1 | 91.1 | 84.5 | 96.4 | 95.8 | 87.5 | 87.6 | 92.5 | 88.7 | 91.3 | 133.9 | | |
| 80 | 82.4 | 87.2 | 83.7 | 84.5 | 84.4 | 86.0 | 87.1 | 86.5 | 86.2 | 85.6 | 87.4 | 91.1 | 92.3 | 128.8 | | |
| 100 | 82.7 | 88.5 | 84.8 | 85.3 | 86.9 | 87.0 | 87.1 | 89.3 | 87.3 | 88.1 | 92.0 | 96.2 | 97.8 | 131.8 | | |
| 125 | 81.6 | 85.4 | 87.2 | 87.4 | 88.3 | 88.2 | 89.0 | 88.9 | 88.2 | 89.7 | 95.9 | 100.0 | 101.5 | 134.4 | | |
| 160 | 80.8 | 79.5 | 85.1 | 82.8 | 85.7 | 85.6 | 91.2 | 86.1 | 86.8 | 89.4 | 96.3 | 100.2 | 103.6 | 134.9 | | |
| 200 | 80.3 | 83.9 | 85.6 | 84.7 | 85.8 | 86.6 | 90.0 | 90.4 | 91.4 | 92.5 | 98.1 | 103.3 | 105.7 | 137.2 | | |
| 250 | 80.3 | 88.1 | 85.1 | 84.6 | 86.5 | 88.6 | 90.5 | 91.9 | 92.3 | 97.4 | 103.3 | 107.5 | 109.6 | 141.2 | | |
| 315 | 82.3 | 85.8 | 86.6 | 88.1 | 90.0 | 89.8 | 91.2 | 92.9 | 94.8 | 99.4 | 104.5 | 109.7 | 111.6 | 143.1 | | |
| 400 | 82.1 | 86.4 | 87.7 | 86.0 | 88.6 | 89.4 | 96.6 | 93.7 | 95.4 | 102.3 | 112.3 | 112.5 | 114.5 | 145.0 | | |
| 500 | 83.5 | 86.7 | 87.0 | 88.6 | 90.0 | 91.4 | 93.8 | 96.5 | 103.1 | 108.5 | 113.3 | 113.3 | 114.6 | 146.1 | | |
| 630 | 84.6 | 88.1 | 89.3 | 89.4 | 90.2 | 91.8 | 92.7 | 94.6 | 96.3 | 103.9 | 114.5 | 114.4 | 114.4 | 147.0 | | |
| 800 | 88.2 | 89.7 | 91.0 | 91.5 | 92.6 | 93.0 | 93.1 | 97.0 | 98.2 | 104.5 | 110.4 | 113.3 | 113.5 | 146.7 | | |
| 1000 | 92.8 | 94.6 | 95.3 | 93.9 | 94.2 | 93.6 | 97.4 | 99.5 | 104.7 | 108.5 | 112.5 | 112.1 | 114.5 | 145.8 | | |
| 1250 | 93.8 | 95.6 | 98.8 | 97.6 | 98.9 | 101.1 | 98.9 | 99.9 | 100.1 | 105.9 | 111.4 | 112.2 | 114.3 | 146.3 | | |
| 1500 | 93.8 | 95.6 | 98.8 | 93.4 | 93.2 | 94.8 | 95.2 | 96.5 | 98.3 | 100.2 | 104.0 | 106.4 | 108.8 | 143.7 | | |
| 2000 | 93.0 | 94.4 | 94.9 | 93.5 | 94.1 | 94.2 | 95.7 | 98.5 | 100.4 | 104.1 | 106.7 | 108.2 | 114.2 | 142.8 | | |
| 2500 | 97.6 | 97.1 | 97.7 | 97.2 | 97.8 | 97.8 | 96.6 | 98.7 | 99.8 | 104.3 | 103.6 | 105.2 | 105.4 | 142.6 | | |
| 3150 | 95.9 | 96.5 | 96.2 | 95.0 | 95.3 | 96.2 | 97.0 | 98.8 | 100.3 | 103.4 | 103.6 | 103.8 | 103.8 | 141.8 | | |
| 4000 | 96.3 | 96.7 | 96.8 | 96.1 | 95.4 | 95.1 | 95.7 | 98.3 | 99.7 | 101.4 | 101.1 | 101.9 | 101.7 | 140.7 | | |
| 5000 | 97.4 | 98.1 | 98.0 | 97.2 | 96.2 | 96.1 | 96.3 | 98.3 | 100.1 | 102.2 | 101.5 | 100.8 | 101.4 | 141.4 | | |
| 6300 | 97.0 | 97.8 | 98.9 | 97.4 | 97.5 | 96.2 | 96.8 | 98.2 | 99.2 | 100.3 | 100.1 | 100.7 | 99.9 | 141.2 | | |
| 8000 | 95.7 | 98.3 | 99.1 | 97.7 | 97.0 | 96.8 | 96.2 | 97.6 | 98.8 | 100.1 | 99.4 | 99.6 | 98.7 | 141.2 | | |
| 10000 | 95.7 | 98.5 | 98.5 | 98.5 | 98.7 | 99.0 | 97.5 | 98.2 | 98.3 | 99.4 | 99.6 | 100.6 | 99.1 | 142.4 | | |
| 12500 | 95.7 | 98.2 | 98.5 | 98.5 | 98.7 | 98.6 | 98.7 | 97.6 | 97.3 | 98.2 | 99.8 | 97.8 | 142.9 | | | |
| 16000 | 92.9 | 95.9 | 97.3 | 97.1 | 98.5 | 97.9 | 97.8 | 98.4 | 97.0 | 95.4 | 96.2 | 97.5 | 96.0 | 143.0 | | |
| 20000 | 91.7 | 93.4 | 95.3 | 95.5 | 97.3 | 97.1 | 95.9 | 95.5 | 95.4 | 92.9 | 94.6 | 95.3 | 94.6 | 143.0 | | |
| 25000 | 88.6 | 91.0 | 94.0 | 94.1 | 96.1 | 96.7 | 94.2 | 94.0 | 91.5 | 91.7 | 93.4 | 90.9 | 144.1 | | | |
| 31500 | 86.6 | 87.2 | 88.0 | 88.5 | 91.7 | 93.1 | 91.6 | 90.0 | 89.7 | 88.4 | 88.9 | 85.1 | 142.9 | | | |
| 40000 | 80.2 | 84.0 | 86.7 | 86.3 | 89.4 | 90.5 | 89.6 | 88.3 | 88.0 | 85.8 | 86.7 | 85.8 | 144.8 | | | |
| 50000 | 77.9 | 81.7 | 84.4 | 83.9 | 86.9 | 88.1 | 86.6 | 85.7 | 85.8 | 83.9 | 84.0 | 84.0 | 146.7 | | | |
| 63000 | 73.9 | 78.4 | 81.2 | 81.0 | 83.7 | 85.1 | 82.3 | 82.9 | 83.6 | 81.4 | 81.3 | 80.8 | 148.9 | | | |
| 80000 | 67.9 | 73.8 | 77.0 | 76.4 | 78.1 | 80.5 | 77.6 | 77.4 | 79.0 | 77.0 | 77.6 | 75.8 | 151.0 | | | |
| QASPL | 107.0 | 108.5 | 109.6 | 108.8 | 109.4 | 109.7 | 109.8 | 110.9 | 111.7 | 115.5 | 118.6 | 122.2 | 122.6 | 159.2 | | |
| PNL | 119.4 | 120.6 | 121.0 | 120.2 | 120.7 | 120.5 | 121.4 | 123.0 | 124.3 | 127.6 | 129.1 | 131.2 | 131.6 | | | |
| PNLT | 120.4 | 121.3 | 122.5 | 121.5 | 122.1 | 122.8 | 123.0 | 124.3 | 127.6 | 129.1 | 131.2 | 131.6 | | | | |
| DBA | 189.7 | 195.1 | 198.3 | 197.7 | 199.8 | 201.8 | 199.1 | 198.9 | 200.3 | 198.3 | 198.7 | 197.2 | 190.1 | | | |

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NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN C-D SUPP NGZ SC-6/NAS3-22514

VEHICL = ADH136 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVL = 0. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.50 RELHUM = 47.1 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

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DATPROC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1605 X16051

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|-------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| PWL | 61.2 | 67.0 | 69.3 | 68.3 | 71.3 | 72.3 | 79.3 | 76.1 | 77.1 | 82.8 | 85.9 | 89.2 | 86.0 |
| 50 | 61.2 | 67.0 | 69.3 | 68.3 | 71.3 | 72.3 | 79.3 | 76.1 | 77.1 | 82.8 | 85.9 | 89.2 | 86.0 |
| 63 | 62.5 | 67.3 | 68.9 | 69.4 | 71.4 | 72.9 | 74.1 | 76.1 | 78.1 | 83.6 | 87.5 | 90.4 | 86.7 |
| 80 | 63.7 | 68.6 | 70.9 | 71.7 | 72.9 | 74.7 | 75.4 | 76.9 | 77.9 | 84.4 | 88.5 | 91.2 | 87.7 |
| 100 | 67.0 | 70.1 | 72.5 | 73.8 | 75.3 | 75.8 | 79.3 | 79.7 | 85.0 | 89.3 | 90.0 | 86.7 | 165.5 |
| 125 | 71.5 | 74.9 | 76.8 | 76.1 | 76.8 | 76.3 | 77.1 | 79.6 | 80.5 | 85.0 | 87.3 | 88.9 | 85.1 |
| 160 | 72.3 | 75.7 | 80.1 | 79.7 | 81.4 | 83.7 | 81.4 | 81.9 | 81.4 | 86.1 | 87.6 | 87.7 | 84.8 |
| 200 | 70.2 | 72.3 | 74.6 | 75.1 | 77.1 | 77.6 | 78.8 | 80.2 | 81.3 | 84.0 | 84.7 | 84.7 | 81.7 |
| 250 | 71.0 | 74.2 | 75.8 | 75.2 | 76.2 | 76.5 | 77.8 | 80.2 | 81.3 | 84.0 | 84.7 | 84.7 | 81.7 |
| 315 | 75.2 | 76.4 | 78.2 | 78.6 | 79.6 | 79.1 | 78.4 | 80.1 | 80.4 | 83.7 | 81.2 | 80.1 | 76.1 |
| 400 | 73.0 | 75.4 | 76.5 | 76.1 | 76.9 | 77.9 | 78.6 | 79.8 | 80.6 | 82.4 | 80.5 | 77.9 | 73.5 |
| 500 | 72.9 | 75.2 | 76.7 | 76.8 | 76.7 | 76.5 | 77.3 | 78.6 | 80.0 | 80.3 | 77.6 | 74.5 | 68.4 |
| 630 | 73.5 | 76.3 | 77.5 | 77.7 | 77.2 | 77.3 | 78.3 | 79.6 | 80.3 | 80.3 | 77.6 | 74.5 | 68.4 |
| 800 | 72.6 | 75.6 | 78.1 | 77.6 | 78.3 | 77.2 | 77.5 | 78.4 | 78.5 | 78.1 | 75.7 | 72.9 | 66.4 |
| 1000 | 70.8 | 75.8 | 78.1 | 77.8 | 77.6 | 77.6 | 76.8 | 77.6 | 77.6 | 77.6 | 74.5 | 71.2 | 64.1 |
| 1250 | 70.4 | 75.9 | 78.3 | 78.3 | 79.2 | 79.6 | 77.9 | 78.0 | 77.1 | 76.6 | 74.3 | 71.3 | 63.0 |
| 1600 | 69.5 | 73.7 | 77.6 | 78.0 | 78.7 | 80.1 | 78.7 | 78.3 | 76.0 | 73.8 | 72.0 | 69.2 | 59.3 |
| 2000 | 65.7 | 71.9 | 75.3 | 76.4 | 78.5 | 78.2 | 77.8 | 77.7 | 75.0 | 71.3 | 69.1 | 65.3 | 54.5 |
| 2500 | 62.7 | 68.2 | 72.4 | 74.2 | 76.8 | 76.8 | 75.4 | 74.2 | 72.6 | 67.6 | 65.6 | 60.2 | 48.2 |
| 3150 | 56.3 | 63.3 | 69.3 | 71.1 | 74.2 | 75.1 | 74.0 | 71.3 | 69.3 | 63.8 | 59.4 | 53.4 | 36.1 |
| 4000 | 44.2 | 54.8 | 59.4 | 62.3 | 66.9 | 68.6 | 66.7 | 63.8 | 61.1 | 55.5 | 49.8 | 40.0 | 15.9 |
| 5000 | 31.9 | 44.0 | 51.9 | 54.7 | 59.6 | 61.2 | 59.8 | 56.7 | 53.2 | 45.8 | 38.4 | 23.2 | 163.3 |
| 6300 | 11.8 | 27.5 | 37.5 | 41.5 | 46.9 | 48.9 | 46.6 | 43.3 | 38.9 | 29.7 | 17.9 | 165.1 | 167.4 |
| 8000 | | 12.9 | 19.3 | 25.6 | 28.1 | 24.2 | 21.2 | 15.4 | 2.4 | | | | |
| 10000 | | | | | | | | | | | | | |
| 12500 | | | | | | | | | | | | | |
| 16000 | | | | | | | | | | | | | |
| 20000 | | | | | | | | | | | | | |
| 25000 | | | | | | | | | | | | | |
| 31500 | | | | | | | | | | | | | |
| 40000 | | | | | | | | | | | | | |
| 50000 | | | | | | | | | | | | | |
| 63000 | | | | | | | | | | | | | |
| 80000 | | | | | | | | | | | | | |

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| | | | | | | | | | | | | | | |
|-------|------|------|------|------|-------|-------|-------|------|------|------|------|------|------|-------|
| OASPL | 83.3 | 86.6 | 89.0 | 89.1 | 90.1 | 90.7 | 90.5 | 91.4 | 91.7 | 94.9 | 96.6 | 98.0 | 94.6 | 177.4 |
| PWL | 89.7 | 94.0 | 97.2 | 97.9 | 99.7 | 100.1 | 99.4 | 99.6 | 98.4 | 98.8 | 98.5 | 97.9 | 93.4 | |
| PNTL | 90.2 | 94.0 | 98.0 | 98.5 | 100.4 | 101.2 | 100.0 | 99.6 | 98.9 | 99.5 | 99.5 | 97.9 | 93.4 | |
| DBA | 80.0 | 83.9 | 86.6 | 86.8 | 87.9 | 88.2 | 87.4 | 87.7 | 87.1 | 87.3 | 85.6 | 84.1 | 79.7 | |

MODEL AREA = 128.3 SQ CM (19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9
NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH136 TEST DATE = 06-25-82 LOCAL = C41 ANECH CH CONFIG = 6
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 79.00
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL
FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 1700.9 FPS AEB AE18 = 19.9 SQ IN
FNRAMB = LBS XNLR = RPM V18 = FPS AE18 = 0.50 IN
RUNPT = 82F-ZER-1605 TAPE = X16051 TEST PT NO = 1605 NC = AE048 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1607 X1607C
BACKGROUND 82F-400-0600

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.
PWL

50 78.5 83.3 84.1 79.6 78.7 76.8 84.5 86.4 77.6 79.7 85.0 86.7 86.4 125.0
63 82.5 82.5 94.5 90.1 88.1 85.0 94.9 95.1 84.3 88.3 89.0 92.2 89.3 133.5
80 83.4 86.0 84.5 85.3 84.4 87.0 87.4 87.0 86.7 86.6 87.9 92.1 93.3 129.5
100 83.5 86.5 84.5 85.3 86.9 86.8 87.1 89.3 88.0 88.6 92.5 96.7 98.1 132.0
125 81.9 85.4 87.7 87.7 88.8 88.9 89.3 89.2 88.7 90.2 95.9 100.0 102.0 134.7
160 80.8 79.3 85.1 84.9 85.3 91.2 86.3 86.6 89.9 96.3 100.7 103.9 135.2
200 80.8 84.6 85.6 85.2 86.0 87.1 90.3 90.4 91.4 92.7 98.1 103.8 105.9 137.5
250 80.0 86.1 85.3 86.6 89.1 90.7 91.9 92.6 97.4 103.8 108.2 109.4 141.4
315 82.5 86.3 86.6 88.4 89.7 89.6 92.0 93.1 95.1 99.2 104.3 109.7 142.8
400 82.1 86.4 87.2 88.6 88.6 89.4 95.1 93.7 93.8 98.2 100.1 104.7 107.0 143.8
500 84.0 86.7 87.5 88.9 90.0 91.9 94.0 96.0 102.8 108.2 112.9 113.0 145.7
600 84.5 87.8 89.1 89.4 90.4 91.3 92.4 94.9 96.8 104.1 109.3 113.5 146.3
800 87.9 88.9 91.2 92.1 92.7 93.3 96.5 98.7 104.3 109.2 112.8 113.3 146.2
1000 92.8 93.6 95.6 94.1 94.2 93.6 94.5 96.9 99.3 104.7 108.5 112.2 145.8
1250 90.8 95.6 96.7 98.1 98.4 98.1 98.4 98.3 99.9 103.3 106.4 110.8 143.8
1600 92.6 93.0 93.9 93.5 94.8 95.2 96.5 98.3 99.9 103.3 106.4 110.8 143.8
2000 95.3 95.4 95.1 93.7 93.8 93.7 95.9 98.2 100.1 104.1 104.7 107.0 142.9
2500 99.3 98.1 98.2 95.9 95.5 94.9 95.8 97.9 99.6 104.1 103.6 105.4 142.4
3150 99.1 99.0 97.8 97.1 96.2 96.5 98.0 100.1 103.8 102.9 103.8 104.3 142.3
4000 97.8 98.4 99.3 98.1 97.9 97.1 96.2 97.8 99.2 101.4 101.1 101.7 141.4
5000 97.6 99.3 100.0 98.5 97.7 98.1 97.0 97.6 99.6 101.9 101.0 101.3 141.8
6300 96.2 97.5 98.1 98.4 99.0 98.0 97.7 97.3 98.2 99.0 100.4 100.7 141.4
8000 95.4 97.5 98.6 97.7 98.0 98.0 97.0 98.6 99.6 99.6 99.6 99.6 141.4
10000 96.0 98.9 99.7 99.0 99.7 99.2 98.5 98.7 99.6 99.4 99.6 99.6 142.6
12500 95.5 96.4 99.7 99.0 99.0 99.0 99.1 99.2 97.6 97.0 98.2 99.3 143.0
16000 93.4 96.1 97.4 98.7 97.8 98.6 97.2 98.6 96.2 97.8 96.2 97.8 143.2
20000 91.7 93.2 95.5 95.8 97.1 97.6 96.4 95.3 95.2 92.9 94.1 95.0 143.1
25000 88.3 91.2 93.5 93.8 96.9 97.2 95.6 94.2 93.3 92.3 92.0 93.4 144.3
31500 83.3 86.7 88.5 88.8 91.5 91.3 89.7 90.2 87.3 87.9 88.4 85.6 142.8
40000 80.4 84.7 86.7 86.3 89.2 90.5 89.4 88.1 87.8 86.3 86.5 86.1 144.7
50000 77.9 81.7 84.1 84.2 86.9 88.1 86.8 85.4 86.0 83.9 83.8 83.5 146.7
63000 74.4 81.9 80.7 83.4 85.1 82.3 82.6 82.6 81.4 81.3 81.1 76.0 148.8
80000 67.9 73.8 76.8 76.4 78.4 80.5 77.9 76.6 78.2 76.3 76.9 75.8 150.8

DBA 107.5 108.2 108.8 107.8 107.9 107.7 107.9 109.3 110.9 114.7 117.1 120.3 120.9
PNLT 122.0 122.3 123.2 121.7 121.3 122.2 121.8 122.6 124.1 127.5 128.8 131.1 131.9
GASPL 107.7 109.0 110.0 109.2 109.6 109.7 109.9 110.7 111.6 115.2 118.2 121.8 122.5 159.0

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH137 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 0. FPS
WIND DIR = 3859 DEG WIND/VEL = NO MPH PWL AREA = FULL SPHERE EXT DIST = 40.0 FT EXT CONFIG = ARC TAMB F = 79.00 PAMB HG = 29.50 RELHUM = 47.1 PCT
FNIN1 = LBS XNLR = RPM XNHR = RPM V8 = 1699.0 FPS AE8 = 19.9 SQ IN
FNINB = LBS XNLR = RPM XNHR = RPM V18 = 1699.0 FPS AE18 = 0. SQ IN
UNPT = 82F-ZER-1607 TAPE = X1607C TEST PT NO = 1607 NC = AE048 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1607 X1607F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 78.5 | 83.3 | 84.1 | 79.6 | 78.7 | 76.8 | 84.5 | 86.4 | 77.6 | 79.7 | 85.0 | 86.7 | 86.4 |
| 63 | 82.5 | 92.5 | 90.1 | 88.1 | 85.0 | 87.4 | 84.9 | 88.3 | 88.0 | 92.2 | 89.3 | 133.5 | PWL |
| 80 | 83.4 | 88.0 | 84.5 | 85.3 | 84.4 | 87.0 | 87.4 | 87.0 | 86.7 | 86.6 | 92.1 | 93.3 | 129.5 |
| 100 | 83.5 | 88.5 | 84.5 | 85.3 | 86.9 | 86.8 | 87.1 | 89.3 | 88.0 | 88.6 | 92.5 | 96.7 | 132.0 |
| 125 | 81.9 | 85.4 | 87.7 | 87.7 | 88.8 | 88.9 | 89.3 | 89.2 | 88.7 | 90.2 | 95.9 | 102.0 | 134.7 |
| 150 | 80.8 | 79.3 | 85.1 | 83.1 | 84.9 | 85.3 | 91.2 | 86.3 | 86.6 | 89.9 | 96.3 | 100.7 | 135.2 |
| 200 | 80.8 | 84.6 | 85.6 | 85.2 | 86.0 | 87.1 | 90.3 | 90.4 | 91.4 | 92.7 | 98.1 | 103.8 | 137.5 |
| 250 | 80.0 | 88.1 | 85.3 | 84.6 | 86.5 | 89.1 | 90.7 | 91.9 | 92.6 | 97.4 | 103.8 | 108.2 | 141.4 |
| 315 | 82.5 | 86.4 | 86.6 | 86.4 | 89.7 | 89.6 | 92.0 | 93.1 | 95.1 | 99.2 | 104.3 | 109.7 | 142.8 |
| 400 | 82.1 | 86.4 | 87.2 | 85.7 | 88.6 | 89.4 | 95.1 | 93.7 | 95.4 | 102.3 | 107.1 | 111.8 | 144.9 |
| 500 | 84.0 | 86.7 | 87.5 | 88.9 | 90.0 | 91.9 | 94.0 | 96.0 | 102.8 | 108.2 | 112.9 | 113.0 | 145.7 |
| 630 | 84.5 | 87.8 | 89.1 | 89.4 | 90.4 | 91.3 | 92.4 | 94.9 | 96.8 | 104.1 | 109.3 | 113.4 | 146.3 |
| 800 | 87.9 | 88.9 | 91.2 | 92.1 | 92.7 | 93.3 | 96.5 | 98.7 | 104.3 | 109.2 | 112.8 | 113.3 | 146.2 |
| 1000 | 82.8 | 83.6 | 95.6 | 94.1 | 94.2 | 93.6 | 94.5 | 96.9 | 99.3 | 104.7 | 108.5 | 112.2 | 145.8 |
| 1250 | 90.8 | 94.1 | 93.8 | 95.6 | 96.7 | 98.1 | 98.4 | 98.1 | 99.6 | 103.9 | 107.0 | 110.7 | 145.2 |
| 1600 | 92.6 | 93.0 | 93.9 | 93.5 | 94.8 | 95.2 | 96.5 | 98.3 | 99.9 | 103.3 | 106.4 | 108.8 | 143.8 |
| 2000 | 95.3 | 95.4 | 95.1 | 93.7 | 93.8 | 93.7 | 95.9 | 98.2 | 100.1 | 104.1 | 107.0 | 108.5 | 142.9 |
| 2500 | 99.3 | 98.1 | 98.2 | 95.9 | 95.5 | 94.9 | 95.8 | 97.9 | 99.6 | 104.1 | 103.6 | 105.4 | 142.4 |
| 3150 | 99.1 | 99.0 | 99.0 | 97.8 | 97.1 | 96.2 | 96.5 | 98.0 | 100.1 | 103.4 | 102.9 | 103.8 | 142.3 |
| 4000 | 97.8 | 98.4 | 99.3 | 98.1 | 97.9 | 97.1 | 96.2 | 97.8 | 99.2 | 101.4 | 101.7 | 102.2 | 141.4 |
| 5000 | 97.6 | 99.3 | 100.0 | 98.5 | 97.7 | 98.1 | 97.0 | 97.6 | 99.6 | 101.9 | 101.0 | 101.3 | 141.8 |
| 6300 | 96.2 | 97.5 | 99.1 | 98.4 | 99.0 | 97.7 | 97.3 | 98.2 | 99.0 | 100.1 | 99.9 | 100.4 | 141.4 |
| 8000 | 95.4 | 97.5 | 98.6 | 97.5 | 98.0 | 97.0 | 98.6 | 99.3 | 99.6 | 99.6 | 99.4 | 98.7 | 141.4 |
| 10000 | 96.0 | 98.9 | 99.7 | 99.0 | 98.7 | 99.2 | 98.5 | 98.7 | 98.6 | 99.4 | 99.6 | 100.1 | 142.6 |
| 12500 | 95.5 | 96.4 | 99.7 | 99.0 | 99.0 | 99.0 | 99.1 | 99.2 | 97.6 | 97.0 | 98.2 | 99.3 | 143.0 |
| 16000 | 93.4 | 96.1 | 97.1 | 97.4 | 98.7 | 97.8 | 97.6 | 97.2 | 95.4 | 96.2 | 97.8 | 96.3 | 143.2 |
| 20000 | 91.7 | 93.2 | 95.8 | 97.1 | 97.6 | 97.2 | 95.3 | 95.2 | 92.9 | 94.1 | 95.0 | 94.9 | 143.1 |
| 25000 | 88.3 | 91.2 | 93.5 | 93.8 | 96.9 | 97.2 | 95.6 | 94.2 | 93.3 | 92.3 | 92.0 | 93.4 | 144.3 |
| 31500 | 83.3 | 86.7 | 88.5 | 88.8 | 91.5 | 92.8 | 91.3 | 89.7 | 90.2 | 87.9 | 87.6 | 88.4 | 142.8 |
| 40000 | 80.4 | 84.7 | 86.7 | 86.3 | 89.2 | 90.5 | 89.4 | 88.1 | 87.8 | 86.3 | 86.5 | 86.1 | 144.7 |
| 50000 | 77.9 | 81.7 | 84.1 | 84.2 | 86.9 | 88.1 | 86.8 | 85.4 | 86.0 | 83.9 | 83.8 | 80.4 | 146.7 |
| 63000 | 74.4 | 78.4 | 81.9 | 80.7 | 83.4 | 85.1 | 82.3 | 82.6 | 82.6 | 81.4 | 81.3 | 76.0 | 148.8 |
| 80000 | 67.9 | 73.8 | 76.8 | 76.4 | 78.4 | 80.5 | 77.9 | 76.6 | 78.2 | 76.3 | 76.9 | 75.8 | 150.8 |
| GASPL | 107.7 | 109.0 | 110.0 | 109.2 | 109.6 | 109.7 | 109.9 | 110.7 | 111.6 | 115.2 | 118.2 | 121.8 | 122.5 |
| PWL | 120.8 | 121.7 | 122.2 | 121.1 | 121.3 | 121.0 | 121.3 | 122.6 | 124.1 | 127.5 | 128.8 | 131.1 | 131.9 |
| PNLT | 122.0 | 122.3 | 123.2 | 121.7 | 121.3 | 122.2 | 121.8 | 122.6 | 124.1 | 127.5 | 128.8 | 131.1 | 131.9 |
| DBA | 189.8 | 195.1 | 198.2 | 197.6 | 199.9 | 201.8 | 199.3 | 198.3 | 199.5 | 197.7 | 198.2 | 197.3 | 191.4 |

ORIGINAL PAGE IS
OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0 , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES
NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH137 TEST DATE = 06-25-82
IAPLHA = SB59
WIND DIR = SB59
DEG WIND VEL = NO MPH
EXT AREA = FULL SPHERE
EXT DIST = 40.0 FT
EXT CNFIG = ARC
TAMB F = 79.00
MODEL = AX
FLVEL = 0. FPS
RELHUM = 47.1 PCT
NBFR =
PAMB HG = 29.50
MIKE HT =
AE8 = 19.9 SQ IN
FPS AE8 =
V8 = 1699.0 FPS
RPM V8 =
XNH =
XNHR =
RPM XNH =
V8 =
FPS AE8 =
SQ IN =
CORR FAN SPEED =
RPM =

DATPROC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1607 X16071

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.
PWL

| | | | | | | | | | | | | | | |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 50 | 61.2 | 67.0 | 68.8 | 68.1 | 71.3 | 72.3 | 77.8 | 76.1 | 77.1 | 82.8 | 86.2 | 88.7 | 86.2 | 163.4 |
| 63 | 63.0 | 67.3 | 69.1 | 69.9 | 71.6 | 72.9 | 74.6 | 76.4 | 77.6 | 83.4 | 87.2 | 89.7 | 86.5 | 164.1 |
| 80 | 63.5 | 68.3 | 70.7 | 71.7 | 73.2 | 74.2 | 75.2 | 77.2 | 78.4 | 84.6 | 88.2 | 90.2 | 86.7 | 164.8 |
| 100 | 66.8 | 69.4 | 72.7 | 73.5 | 74.8 | 75.5 | 76.0 | 78.8 | 80.2 | 84.7 | 88.0 | 89.5 | 86.4 | 164.6 |
| 125 | 71.5 | 73.9 | 77.0 | 76.3 | 76.8 | 76.3 | 77.1 | 79.1 | 80.8 | 85.0 | 87.3 | 88.7 | 85.3 | 164.3 |
| 160 | 69.3 | 74.2 | 75.1 | 77.7 | 79.2 | 80.7 | 80.9 | 80.2 | 80.9 | 84.1 | 85.6 | 86.9 | 84.8 | 163.6 |
| 200 | 70.9 | 73.0 | 75.1 | 75.4 | 77.1 | 77.6 | 78.8 | 80.2 | 81.1 | 83.2 | 84.7 | 84.7 | 82.2 | 162.2 |
| 250 | 73.3 | 75.2 | 76.0 | 76.0 | 77.4 | 76.0 | 78.1 | 79.9 | 81.0 | 83.9 | 82.7 | 82.5 | 80.0 | 161.4 |
| 315 | 76.9 | 77.4 | 78.7 | 77.3 | 77.4 | 76.9 | 77.7 | 79.3 | 80.1 | 83.5 | 81.2 | 80.3 | 76.1 | 160.9 |
| 400 | 76.2 | 77.9 | 79.2 | 78.8 | 78.6 | 77.9 | 78.1 | 79.1 | 80.3 | 82.4 | 80.0 | 78.1 | 74.0 | 160.7 |
| 500 | 74.4 | 77.0 | 79.2 | 78.8 | 79.2 | 78.5 | 77.5 | 78.6 | 79.1 | 80.0 | 77.7 | 75.3 | 70.9 | 159.9 |
| 630 | 73.7 | 77.5 | 79.5 | 79.0 | 78.7 | 79.3 | 78.0 | 78.1 | 79.1 | 80.0 | 77.1 | 74.2 | 68.4 | 160.2 |
| 800 | 71.8 | 75.3 | 78.4 | 78.6 | 79.8 | 78.7 | 78.0 | 78.4 | 78.2 | 77.9 | 75.5 | 72.7 | 67.1 | 159.9 |
| 1000 | 70.6 | 75.0 | 77.8 | 78.6 | 78.6 | 77.6 | 78.6 | 78.3 | 77.1 | 74.8 | 70.9 | 64.1 | 159.9 | |
| 1250 | 70.6 | 76.1 | 78.5 | 78.8 | 79.2 | 79.9 | 78.9 | 78.5 | 77.6 | 74.3 | 70.8 | 63.0 | 161.1 | |
| 1600 | 69.3 | 73.0 | 78.1 | 78.5 | 79.2 | 79.4 | 79.2 | 78.8 | 76.0 | 73.6 | 72.0 | 68.7 | 60.0 | 161.5 |
| 2000 | 66.2 | 72.1 | 75.1 | 76.7 | 78.7 | 79.0 | 77.8 | 77.9 | 75.2 | 71.3 | 69.1 | 65.5 | 54.8 | 161.7 |
| 2500 | 62.7 | 67.9 | 72.7 | 74.4 | 76.5 | 77.3 | 75.9 | 73.9 | 72.3 | 67.6 | 65.1 | 60.0 | 48.5 | 161.5 |
| 3150 | 56.0 | 63.5 | 68.8 | 70.9 | 75.0 | 75.6 | 73.7 | 71.3 | 68.5 | 64.6 | 59.7 | 53.4 | 36.3 | 162.7 |
| 4000 | 44.7 | 54.3 | 59.9 | 62.6 | 66.6 | 68.4 | 66.5 | 63.5 | 61.6 | 55.5 | 49.0 | 39.5 | 16.4 | 161.3 |
| 5000 | 32.1 | 44.8 | 51.9 | 54.7 | 59.3 | 61.2 | 59.5 | 56.5 | 53.0 | 46.3 | 38.1 | 23.4 | | 163.2 |
| 6300 | 11.8 | 27.5 | 37.2 | 41.8 | 46.9 | 48.9 | 46.9 | 43.0 | 39.1 | 29.7 | 17.6 | | | 165.1 |
| 8000 | | | 13.7 | 19.1 | 25.4 | 28.1 | 24.2 | 21.0 | 14.4 | 2.4 | | | | 167.3 |
| 10000 | | | | | | | | | | | | | | 169.2 |

80000
63000
50000
40000
31500
25000
20000
16000
12500

OASPL 84.2 87.0 89.3 89.4 90.3 90.5 90.5 91.1 91.6 94.5 96.1 97.5 94.4 177.2
PNL 90.3 94.2 97.6 98.2 99.9 100.3 99.5 99.5 98.4 98.6 98.0 97.6 93.4
PNLT 90.9 94.2 98.1 98.7 100.4 100.9 100.1 99.5 99.0 99.2 99.1 97.6 93.4
DBA 80.6 84.3 87.1 87.4 88.4 88.6 87.8 87.8 87.0 87.1 85.4 83.9 79.9

MODEL AREA = 128.3 SQ CM (19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH137 TEST DATE = 06-25-82
IAPLHA = SB59 LEGA = NO
WIND DIR = DEG WIND VEL = MPH
FNINI = LBS XNL RPM XNHR = RPM V8 = 1699.0 FPS AE18 = 19.9 SQ IN
FNAMB = LBS XNLR = RPM XNHR = RPM V8 = 1699.0 FPS AE18 = 19.9 SQ IN
CORR FAN SPEED = RPM

ORIGINAL PAGE 19
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1611 X16111

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

| | | | | | | | | | | | | | | |
|-------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| 63 | 63.0 | 67.3 | 68.9 | 69.6 | 71.9 | 73.6 | 75.1 | 76.6 | 77.9 | 83.4 | 88.2 | 90.2 | 86.5 | 164.6 |
| 80 | 63.7 | 68.8 | 71.2 | 71.9 | 73.4 | 74.4 | 75.7 | 77.4 | 78.4 | 84.6 | 88.5 | 90.7 | 87.2 | 165.2 |
| 100 | 66.8 | 69.4 | 72.5 | 73.5 | 75.0 | 75.5 | 76.3 | 79.0 | 80.5 | 84.7 | 88.5 | 90.2 | 87.2 | 165.2 |
| 125 | 71.5 | 75.2 | 78.0 | 77.1 | 77.1 | 76.8 | 77.1 | 79.3 | 81.0 | 84.5 | 87.1 | 89.2 | 85.6 | 164.5 |
| 160 | 68.8 | 73.7 | 75.6 | 77.7 | 80.4 | 80.9 | 80.7 | 79.9 | 80.9 | 84.8 | 85.8 | 87.2 | 85.5 | 164.0 |
| 200 | 72.4 | 74.3 | 76.3 | 75.6 | 77.1 | 77.9 | 79.1 | 80.0 | 81.8 | 83.7 | 85.0 | 82.7 | 162.6 | |
| 250 | 76.0 | 76.9 | 77.3 | 76.2 | 76.2 | 76.5 | 77.6 | 79.9 | 81.0 | 83.2 | 83.2 | 80.5 | 161.9 | |
| 315 | 79.4 | 80.2 | 81.0 | 79.6 | 78.9 | 77.6 | 77.7 | 80.1 | 84.0 | 81.7 | 80.6 | 77.3 | 161.9 | |
| 400 | 77.5 | 80.4 | 81.7 | 81.1 | 81.4 | 79.9 | 78.6 | 79.6 | 80.6 | 82.6 | 80.5 | 78.4 | 74.3 | 161.8 |
| 500 | 75.9 | 78.2 | 80.5 | 79.6 | 80.9 | 80.5 | 79.8 | 79.6 | 79.1 | 79.4 | 80.5 | 77.7 | 76.1 | 160.8 |
| 630 | 74.5 | 78.5 | 80.5 | 79.7 | 80.2 | 79.8 | 79.6 | 79.6 | 80.3 | 77.6 | 74.7 | 71.1 | 160.8 | |
| 800 | 72.6 | 76.3 | 79.1 | 79.8 | 80.3 | 79.7 | 79.0 | 79.4 | 78.7 | 76.0 | 73.2 | 66.6 | 160.6 | |
| 1000 | 71.3 | 76.0 | 78.1 | 78.5 | 79.6 | 78.3 | 78.5 | 78.6 | 77.9 | 74.5 | 71.7 | 64.6 | 160.6 | |
| 1250 | 71.1 | 76.6 | 78.8 | 79.7 | 80.4 | 79.7 | 78.5 | 76.7 | 74.1 | 71.8 | 69.2 | 60.0 | 161.9 | |
| 1600 | 69.8 | 74.0 | 78.6 | 78.5 | 79.9 | 79.2 | 79.5 | 76.7 | 74.5 | 71.3 | 63.0 | 161.5 | | |
| 2000 | 66.2 | 72.4 | 75.8 | 76.9 | 79.0 | 77.8 | 78.2 | 75.7 | 71.8 | 69.1 | 65.5 | 55.0 | 161.9 | |
| 2500 | 62.7 | 68.2 | 72.7 | 74.4 | 77.3 | 77.6 | 74.2 | 72.8 | 68.4 | 65.4 | 61.5 | 48.5 | 162.0 | |
| 3150 | 56.5 | 63.8 | 69.3 | 71.1 | 74.7 | 75.6 | 74.2 | 71.3 | 69.0 | 64.3 | 59.4 | 54.4 | 37.1 | 162.9 |
| 4000 | 44.7 | 54.8 | 60.1 | 62.6 | 66.6 | 68.6 | 66.5 | 63.8 | 61.6 | 55.5 | 49.3 | 40.5 | 16.4 | 161.5 |
| 5000 | 32.6 | 44.8 | 51.9 | 54.9 | 59.8 | 61.2 | 59.8 | 57.0 | 53.7 | 45.8 | 38.1 | 24.2 | | 163.4 |
| 6300 | 11.8 | 27.5 | 37.2 | 41.8 | 47.4 | 49.2 | 46.6 | 43.5 | 39.1 | 30.2 | 17.6 | | | 165.4 |
| 8000 | | | | | | | | | | | | | | 167.4 |
| 10000 | | | | | | | | | | | | | | 169.6 |

ORIGINAL PAGE IS
OF POOR QUALITY

MODEL AREA = 128.3 SQ CM (19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9
NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NASA3-22514

VEHICLE = ADH138 TEST DATE = 06-25-82 LOCAL AREA = C41 ANECH CH CONFIG = 6 PAMB HG = 29.50 RELHUM = 47.1 PCT
IAPLHA = SB59 DEGA = NO EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = 0 FPS
WIND DIR = DEG WIND VEL = MPH PWL AREA = FULL SPHERE TAMB F = 79.00
FININ = LBS XNL RPM XNHR = 1709.1 FPS AEB = 19.9 SQ IN
FNRMAB = LBS XNLR RPM XNHR = 1709.1 FPS AEB = 19.9 SQ IN
CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1611 X1611F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

78.0 80.1 82.3 83.6 81.7 78.1 85.7 84.4 80.8 79.4 86.8 85.0 87.4 125.2

63 82.5 92.8 92.8 89.5 86.5 94.6 88.6 88.6 92.5 88.7 93.6 134.2

80 82.9 87.7 83.7 85.0 84.9 86.7 87.6 87.0 87.2 86.6 88.4 91.9 93.0 129.4

100 83.7 88.5 84.8 85.3 87.1 86.8 87.4 90.3 88.0 88.8 93.0 96.4 98.1 132.2

125 82.6 85.6 88.2 88.4 89.3 89.4 89.5 89.9 88.7 90.5 96.6 100.8 102.7 135.4

160 81.5 79.5 85.3 83.1 85.7 86.1 90.9 86.6 87.1 90.4 97.0 104.1 135.5

200 80.8 84.6 85.9 85.2 86.0 87.1 90.0 90.9 91.9 93.0 98.8 104.3 106.7 138.1

250 80.5 88.8 85.8 84.9 86.5 89.6 91.5 92.4 92.6 97.9 104.5 108.7 109.9 142.0

315 82.3 86.8 87.1 88.4 90.0 90.3 92.2 93.4 95.1 99.9 105.0 110.2 111.9 143.5

400 82.1 87.2 87.9 86.7 89.3 89.9 95.6 94.0 95.7 102.5 107.4 111.8 112.5 144.9

500 84.0 86.7 87.3 87.3 89.1 90.8 92.4 94.3 96.3 102.8 109.2 113.4 113.0 146.1

630 84.8 86.9 86.6 89.7 91.6 92.9 95.1 96.8 104.1 109.5 114.0 113.9 146.7

800 87.9 88.9 91.0 91.2 92.3 92.7 93.6 96.7 99.0 104.3 109.7 113.6 146.8

1000 82.8 94.8 96.6 94.9 94.5 94.1 94.5 97.1 99.6 104.2 108.3 112.7 112.6 146.0

1250 90.3 93.6 94.3 95.6 97.9 98.3 98.2 97.8 99.6 104.6 107.3 110.9 113.0 145.6

1600 94.1 94.3 95.2 93.7 94.8 96.8 98.1 100.7 103.8 109.1 110.6 114.1 143.4

2000 98.0 97.2 96.4 94.5 94.1 94.2 95.4 98.2 100.1 104.1 105.2 107.7 109.0 143.4

2500 101.8 100.8 100.4 98.2 97.0 95.6 95.8 98.7 99.6 104.6 104.1 105.7 106.7 143.4

3150 100.4 101.5 100.0 99.8 98.2 97.0 98.5 100.3 103.7 103.4 104.1 104.6 143.3

4000 99.3 99.7 100.5 98.8 99.6 99.7 97.7 98.3 99.4 101.9 102.4 102.4 142.3

5000 98.4 100.3 101.0 99.2 99.2 98.6 98.8 99.1 100.1 102.2 101.5 101.8 142.6

6300 97.0 98.5 99.9 99.6 99.5 98.7 98.3 99.2 99.5 100.6 100.4 100.9 142.1

8000 96.2 98.5 99.1 98.5 99.0 98.8 97.7 99.3 99.5 100.4 99.9 99.2 142.1

10000 96.5 99.2 100.2 99.0 99.2 99.7 99.2 98.7 99.3 99.7 99.9 100.6 143.0

12500 96.0 97.4 100.2 99.0 99.8 99.7 99.1 100.0 98.3 97.5 98.0 99.8 143.5

16000 93.4 97.8 99.0 97.6 97.8 97.7 97.7 97.8 97.8 97.8 97.8 97.8 143.5

20000 91.7 93.4 95.5 95.8 97.8 97.8 97.2 95.5 95.7 93.6 94.4 96.5 143.5

25000 88.8 94.0 94.1 96.6 97.2 96.1 94.2 93.8 92.0 91.7 94.4 91.9 144.4

31500 83.3 87.2 88.7 88.8 91.5 93.1 91.3 90.0 90.2 87.9 89.4 85.6 143.0

40000 80.9 84.7 86.5 89.7 90.5 89.6 88.5 88.5 86.8 82.7 82.7 145.0

50000 77.9 81.7 84.1 84.2 87.4 86.6 85.9 86.0 84.4 83.8 84.7 80.1 146.9

63000 73.9 78.6 81.2 81.0 83.7 85.1 82.5 82.9 83.4 81.4 81.1 81.3 148.9

80000 67.6 73.8 77.0 77.1 78.6 80.8 77.9 77.4 78.7 76.3 76.9 77.0 151.1

CASPL 108.9 110.2 111.0 109.9 110.5 110.4 110.4 111.1 112.0 115.4 118.6 122.3 122.9 159.4

PWL 123.4 123.1 123.3 123.6 122.6 122.2 122.1 123.0 124.4 127.8 129.2 131.5 132.3

PWL 123.4 123.1 123.3 123.6 122.6 122.2 122.1 123.0 124.4 127.8 129.2 131.5 132.3

DBA 189.5 195.2 198.2 198.3 200.1 202.0 199.3 199.0 200.1 197.7 198.1 198.3 190.8

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514

VEHICLE = ADH138 TEST DATE = 06-25-82
IAPLHA = SB59
WIND DIR = DEG WIND VEL = MPH
LOCAT = C41 ANECH CH CONFIG = 6
PWL AREA = FULL SPHERE
EXT DIST = 40.0 FT
TAMB F = 79.00
FAMH HG = 29.50
RELHUM = 47.1 PCT
FLVEL = 0. FPS
MODEL = AX
MIKE HT = 29.50
NBFR = 0. FPS

FNINI = LBS XNL RPM XNHR = RPM
FNAMB = LBS XNL RPM XNHR = RPM
V8 = 1709.1 FPS AE8 = 19.9 SQ IN
V18 = 1709.1 FPS AE18 = 19.9 SQ IN

RUNPT = 82F-ZER-1611 TAPE = X1611F
TEST PT NO = 1611 NC = AE048
CORR FAN SPEED = RPM

ORIGINAL PAGE 10
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1613 X1613F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|--|---|------------------------|-------------------|-----------------|-------------------|-------------------|--------------|-----------------|--------------|---------------|-------|--------------------|------------------|
| PWL | 87.9 | 81.6 | 83.8 | 82.6 | 81.0 | 77.8 | 86.7 | 86.4 | 79.6 | 79.4 | 86.3 | 86.0 | 87.9 |
| 50 | 78.5 | 81.6 | 83.8 | 82.6 | 81.0 | 77.8 | 86.7 | 86.4 | 79.6 | 79.4 | 86.3 | 86.0 | 87.9 |
| 63 | 81.7 | 80.0 | 84.0 | 83.4 | 85.3 | 86.7 | 85.3 | 86.0 | 82.2 | 89.2 | 83.1 | 83.4 | 129.4 |
| 80 | 82.9 | 87.5 | 84.5 | 85.0 | 84.9 | 86.7 | 87.1 | 87.0 | 87.2 | 86.3 | 88.2 | 91.3 | 129.4 |
| 100 | 83.7 | 89.0 | 85.3 | 86.1 | 87.9 | 87.3 | 87.4 | 90.1 | 88.0 | 89.3 | 93.5 | 97.2 | 132.6 |
| 125 | 82.1 | 85.6 | 87.7 | 87.9 | 89.0 | 89.2 | 89.5 | 88.7 | 90.7 | 96.9 | 101.0 | 102.0 | 135.2 |
| 160 | 81.3 | 79.5 | 85.6 | 82.8 | 85.4 | 85.6 | 90.7 | 86.8 | 87.6 | 90.1 | 96.8 | 100.9 | 135.4 |
| 200 | 80.8 | 84.6 | 85.6 | 85.4 | 86.0 | 87.1 | 90.3 | 90.9 | 91.9 | 93.0 | 98.6 | 104.3 | 137.9 |
| 250 | 80.3 | 86.8 | 85.8 | 85.1 | 87.0 | 89.6 | 91.2 | 92.4 | 92.8 | 97.9 | 104.0 | 108.7 | 142.1 |
| 315 | 82.5 | 86.8 | 86.8 | 86.9 | 90.0 | 90.3 | 92.2 | 93.6 | 95.3 | 99.4 | 104.8 | 110.2 | 143.6 |
| 400 | 82.6 | 87.2 | 87.9 | 86.0 | 89.1 | 89.7 | 95.6 | 94.2 | 96.2 | 102.3 | 107.6 | 112.1 | 145.2 |
| 500 | 84.0 | 87.0 | 87.5 | 89.6 | 90.8 | 92.4 | 94.3 | 96.5 | 103.3 | 109.0 | 113.6 | 113.3 | 146.2 |
| 630 | 85.0 | 88.3 | 89.8 | 90.1 | 90.7 | 91.8 | 93.4 | 95.4 | 96.8 | 104.6 | 110.0 | 114.5 | 147.1 |
| 800 | 88.2 | 89.2 | 91.2 | 91.5 | 92.3 | 93.2 | 93.8 | 97.2 | 99.7 | 105.0 | 110.2 | 114.1 | 147.3 |
| 1000 | 93.5 | 94.8 | 96.3 | 95.1 | 95.0 | 94.3 | 95.0 | 97.4 | 99.8 | 104.7 | 108.8 | 112.7 | 146.3 |
| 1250 | 90.5 | 94.1 | 94.8 | 95.9 | 97.7 | 98.6 | 98.9 | 98.4 | 100.3 | 104.9 | 107.5 | 111.7 | 145.9 |
| 1600 | 94.4 | 94.3 | 95.4 | 95.3 | 95.2 | 97.3 | 98.6 | 100.4 | 106.4 | 110.1 | 111.1 | 114.6 | 144.6 |
| 2000 | 99.3 | 97.9 | 96.9 | 95.0 | 94.6 | 94.2 | 96.2 | 98.5 | 100.1 | 104.4 | 105.2 | 108.0 | 143.7 |
| 2500 | 101.6 | 100.8 | 100.9 | 98.7 | 97.3 | 95.6 | 96.1 | 98.4 | 100.1 | 104.6 | 103.9 | 106.2 | 143.6 |
| 3150 | 100.1 | 100.7 | 101.2 | 99.5 | 99.8 | 98.2 | 97.5 | 98.8 | 100.3 | 103.4 | 103.2 | 104.1 | 143.3 |
| 4000 | 98.0 | 98.4 | 100.0 | 99.1 | 98.9 | 99.1 | 98.0 | 98.8 | 99.7 | 101.9 | 101.9 | 102.7 | 142.3 |
| 5000 | 97.6 | 99.3 | 100.2 | 99.5 | 98.7 | 98.9 | 98.5 | 99.1 | 100.3 | 102.2 | 101.5 | 102.0 | 142.4 |
| 6300 | 96.7 | 98.0 | 99.4 | 98.6 | 99.0 | 98.2 | 98.5 | 99.7 | 100.2 | 100.6 | 100.6 | 100.9 | 142.1 |
| 8000 | 98.4 | 98.5 | 99.3 | 98.0 | 98.0 | 97.5 | 97.8 | 98.9 | 99.5 | 99.9 | 100.1 | 99.7 | 141.9 |
| 10000 | 96.7 | 98.9 | 100.3 | 99.2 | 98.7 | 99.2 | 98.7 | 98.7 | 99.7 | 100.1 | 100.6 | 99.6 | 142.9 |
| 12500 | 96.0 | 97.9 | 100.7 | 99.5 | 99.8 | 99.3 | 98.3 | 99.2 | 98.1 | 97.8 | 98.5 | 98.5 | 143.4 |
| 16000 | 93.7 | 96.4 | 97.8 | 97.9 | 99.2 | 98.2 | 97.8 | 98.1 | 97.2 | 95.4 | 96.7 | 97.8 | 143.4 |
| 20000 | 91.9 | 93.7 | 95.8 | 96.0 | 98.1 | 97.8 | 97.2 | 95.8 | 93.4 | 94.6 | 95.5 | 95.4 | 143.5 |
| 25000 | 89.1 | 93.7 | 94.0 | 94.1 | 96.9 | 97.2 | 96.6 | 94.5 | 92.0 | 92.2 | 94.2 | 92.1 | 144.6 |
| 31500 | 83.5 | 87.2 | 89.5 | 88.8 | 91.7 | 93.3 | 92.1 | 90.5 | 90.0 | 87.9 | 88.6 | 89.7 | 143.3 |
| 40000 | 80.7 | 85.2 | 87.0 | 86.8 | 89.9 | 89.5 | 89.6 | 89.1 | 88.3 | 86.7 | 86.8 | 86.2 | 145.1 |
| 50000 | 78.2 | 82.2 | 84.6 | 84.4 | 87.9 | 88.1 | 87.1 | 86.2 | 86.3 | 84.1 | 84.3 | 84.5 | 147.1 |
| 63000 | 74.1 | 78.9 | 81.4 | 81.0 | 84.2 | 85.1 | 83.3 | 83.4 | 83.6 | 81.6 | 81.8 | 81.6 | 149.3 |
| 80000 | 67.9 | 74.3 | 77.0 | 76.9 | 79.1 | 80.5 | 77.9 | 77.6 | 79.0 | 76.0 | 77.1 | 77.0 | 151.2 |
| QASPL | 108.9 | 109.9 | 111.0 | 110.1 | 110.4 | 110.3 | 110.5 | 111.2 | 112.1 | 115.6 | 118.7 | 122.6 | 123.2 |
| PNL | 122.0 | 122.9 | 123.5 | 122.7 | 122.5 | 122.1 | 122.3 | 123.3 | 124.5 | 127.8 | 129.2 | 131.8 | 132.7 |
| PMLT | 123.4 | 123.3 | 123.6 | 123.3 | 122.5 | 123.4 | 122.8 | 123.3 | 124.5 | 127.8 | 129.2 | 131.8 | 132.7 |
| DBA | 189.8 | 195.6 | 198.3 | 198.1 | 200.6 | 201.9 | 199.5 | 199.3 | 200.3 | 197.6 | 198.5 | 198.3 | 192.0 |
| MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 | FREE JET VEL (FPS)= 0, DIAM (IN)= 48.00 | | | | | | | | | | | | |
| NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514 | | | | | | | | | | | | | |
| VEHICL = ADH139 | TEST DATE = 06-25-82 | LOCAT = C41 ANECH CH | CONFIG = 6 | MODEL = AX | FLTVEL = 0. FPS | RELHUM = 47.1 PCT | NBRF = | WIND DIR = SB59 | DEG | WIND VEL = NO | MPH | EXT DIST = 40.0 FT | EXT CONFIG = ARC |
| IAPLHA = | LEG A | PWL AREA = FULL SPHERE | TAMB F = 79.00 | PAMB HG = 29.50 | RELHUM = 47.1 PCT | FLTVEL = 0. FPS | NBRF = | WIND DIR = SB59 | DEG | WIND VEL = NO | MPH | EXT DIST = 40.0 FT | EXT CONFIG = ARC |
| FNIN1 = | LBS | XNL | RPM | XNH | RPM | V8 | = 1714.3 FPS | AE8 | = 19.9 SQ IN | FPS | AE18 | = 0. SQ IN | RPM |
| FNAMB = | LBS | XNL | RPM | XNHR | RPM | V8 | = 1714.3 FPS | AE18 | = 19.9 SQ IN | FPS | AE18 | = 0. SQ IN | RPM |
| RUNPT = 82F-ZER-1613 | TAPE | = X1613F | TEST PT NO = 1613 | NC | = AE048 | CORR FAN SPEED = | RPM | | | | | | |

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OF POOR QUALITY

DATPROC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1613 X16131

ANGLES MEASURED FROM INLET, DEGREES

FREO 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

| | | | | | | | | | | | | | | |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 50 | 61.7 | 67.7 | 69.6 | 68.3 | 71.8 | 72.6 | 78.3 | 76.6 | 77.8 | 82.8 | 86.7 | 88.9 | 86.5 | 163.7 |
| 63 | 63.0 | 68.5 | 69.1 | 69.9 | 72.4 | 73.6 | 75.1 | 76.6 | 78.1 | 83.9 | 88.0 | 90.4 | 86.7 | 164.7 |
| 80 | 64.0 | 68.8 | 71.4 | 72.4 | 73.4 | 74.7 | 76.2 | 77.7 | 78.4 | 85.1 | 89.0 | 91.2 | 87.4 | 165.6 |
| 100 | 67.0 | 69.6 | 72.7 | 73.8 | 75.0 | 76.0 | 76.5 | 79.5 | 81.2 | 85.5 | 89.0 | 90.7 | 87.7 | 165.8 |
| 125 | 72.3 | 75.2 | 77.8 | 77.3 | 77.6 | 77.1 | 77.6 | 79.6 | 81.3 | 85.0 | 87.6 | 89.2 | 86.1 | 164.7 |
| 160 | 69.1 | 74.2 | 76.1 | 77.9 | 80.2 | 81.2 | 81.4 | 80.4 | 81.6 | 85.1 | 87.9 | 85.5 | 164.4 | |
| 200 | 72.7 | 74.3 | 76.6 | 77.6 | 77.6 | 77.6 | 79.6 | 80.5 | 81.6 | 84.0 | 84.7 | 86.0 | 83.2 | 163.0 |
| 250 | 77.3 | 77.7 | 77.8 | 76.7 | 76.7 | 76.5 | 78.3 | 80.2 | 81.0 | 84.1 | 83.2 | 83.5 | 80.7 | 162.1 |
| 315 | 79.2 | 80.2 | 81.5 | 80.1 | 79.1 | 77.6 | 79.9 | 79.8 | 80.6 | 84.0 | 81.4 | 81.1 | 78.1 | 162.1 |
| 400 | 77.2 | 79.7 | 81.5 | 81.6 | 79.9 | 79.1 | 79.8 | 80.6 | 82.4 | 80.3 | 78.4 | 74.8 | 161.7 | |
| 500 | 74.6 | 77.0 | 80.0 | 79.8 | 80.2 | 80.5 | 79.3 | 79.6 | 80.5 | 78.5 | 76.3 | 71.6 | 160.8 | |
| 630 | 73.7 | 77.5 | 79.8 | 80.0 | 79.7 | 80.0 | 79.5 | 79.6 | 80.3 | 77.4 | 74.5 | 69.7 | 160.9 | |
| 800 | 72.3 | 75.8 | 78.6 | 78.8 | 79.8 | 79.2 | 79.3 | 79.9 | 78.4 | 76.2 | 73.2 | 67.1 | 160.5 | |
| 1000 | 71.6 | 76.0 | 78.4 | 78.0 | 78.6 | 79.3 | 78.1 | 78.9 | 78.6 | 77.4 | 74.8 | 71.7 | 160.4 | |
| 1250 | 71.4 | 76.1 | 79.3 | 79.1 | 79.2 | 79.9 | 78.5 | 77.9 | 76.8 | 74.8 | 71.3 | 63.5 | 161.4 | |
| 1600 | 69.8 | 74.5 | 79.0 | 79.9 | 79.9 | 78.5 | 78.8 | 76.5 | 74.3 | 72.3 | 69.2 | 60.0 | 161.9 | |
| 2000 | 66.5 | 72.4 | 75.8 | 77.2 | 79.2 | 79.0 | 77.8 | 75.2 | 71.3 | 69.6 | 65.5 | 55.5 | 161.9 | |
| 2500 | 62.9 | 68.4 | 72.9 | 74.7 | 77.5 | 77.6 | 76.6 | 74.4 | 72.3 | 68.1 | 65.6 | 60.5 | 49.0 | 162.0 |
| 3150 | 56.8 | 64.0 | 69.3 | 71.1 | 75.0 | 75.6 | 74.7 | 71.5 | 69.5 | 64.3 | 59.9 | 54.2 | 37.3 | 163.1 |
| 4000 | 45.0 | 54.8 | 60.9 | 62.6 | 66.9 | 68.9 | 67.2 | 64.3 | 61.4 | 55.5 | 50.0 | 40.7 | 16.4 | 161.8 |
| 5000 | 32.4 | 45.3 | 52.2 | 55.2 | 60.1 | 61.2 | 59.8 | 57.5 | 53.5 | 46.0 | 38.4 | 24.2 | | 163.6 |
| 6300 | 12.0 | 28.0 | 37.7 | 42.0 | 47.9 | 48.9 | 47.1 | 43.8 | 39.4 | 29.9 | 18.1 | | | 165.6 |
| 8000 | | | | | | | | | | | | | | 167.7 |
| 10000 | | | | | | | | | | | | | | 169.6 |

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MODEL AREA = 128.3 SQ CM (19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514

VEHICL = ADH139 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 0. FPS
 IAPHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.50 RELHUM = 47.1 PCT
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBRF =

FNINI = LBS XNL RPM XNM XNHR = RPM V8 = 1714.3 FPS AE8 = 19.9 SQ IN
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1714.3 FPS AE18 = 0. SQ IN

RT = 82F-ZER-1613 TAPE = X16131 TEST PT NO = 16 NC = AE048 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1615 X1615C
BACKGROUND 82F-400-0600
ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 78.3 | 80.6 | 82.3 | 83.1 | 83.1 | 79.0 | 78.1 | 86.5 | 86.6 | 79.1 | 77.7 | 86.0 | 87.1 |
| 63 | 81.0 | 88.2 | 90.8 | 91.3 | 88.6 | 85.3 | 87.0 | 87.0 | 87.0 | 83.1 | 91.2 | 88.9 | 93.4 |
| 80 | 83.7 | 88.2 | 84.5 | 85.8 | 85.9 | 87.5 | 87.9 | 87.8 | 87.9 | 87.8 | 87.5 | 86.6 | 93.9 |
| 100 | 84.2 | 89.5 | 85.8 | 86.3 | 87.9 | 87.8 | 87.9 | 87.9 | 87.9 | 87.8 | 89.1 | 93.2 | 97.7 |
| 125 | 82.9 | 86.4 | 88.2 | 88.2 | 89.5 | 89.4 | 90.0 | 89.7 | 89.2 | 89.6 | 90.5 | 96.6 | 101.0 |
| 150 | 82.0 | 80.0 | 85.8 | 83.8 | 86.2 | 86.3 | 91.4 | 87.1 | 87.6 | 90.1 | 97.3 | 101.4 | 104.4 |
| 200 | 81.3 | 85.1 | 85.6 | 85.4 | 86.3 | 87.9 | 90.5 | 91.4 | 92.9 | 93.0 | 99.1 | 104.5 | 107.2 |
| 250 | 81.3 | 89.3 | 85.6 | 85.9 | 87.0 | 89.6 | 91.7 | 92.9 | 93.6 | 97.7 | 104.5 | 108.7 | 110.4 |
| 315 | 83.3 | 86.8 | 86.8 | 89.1 | 90.5 | 90.6 | 92.5 | 93.9 | 95.8 | 99.7 | 105.5 | 110.7 | 112.1 |
| 400 | 82.6 | 87.4 | 87.7 | 87.0 | 89.6 | 90.2 | 95.8 | 94.7 | 96.2 | 102.3 | 108.1 | 112.3 | 113.0 |
| 500 | 84.5 | 87.5 | 87.8 | 88.0 | 89.6 | 91.3 | 92.9 | 94.3 | 97.0 | 103.6 | 109.5 | 113.4 | 113.5 |
| 630 | 85.3 | 88.6 | 90.1 | 90.1 | 91.2 | 91.8 | 93.4 | 95.4 | 97.1 | 104.4 | 110.0 | 115.0 | 115.1 |
| 800 | 89.2 | 89.9 | 91.7 | 91.7 | 93.1 | 93.5 | 94.3 | 97.5 | 99.5 | 105.0 | 110.7 | 114.1 | 114.8 |
| 1000 | 93.3 | 94.8 | 96.6 | 95.4 | 95.0 | 94.3 | 96.0 | 97.9 | 100.3 | 104.7 | 109.3 | 113.5 | 114.1 |
| 1250 | 91.0 | 94.6 | 95.9 | 97.7 | 98.6 | 98.7 | 98.6 | 98.7 | 98.4 | 100.3 | 104.4 | 108.0 | 112.2 |
| 1500 | 95.1 | 95.4 | 95.4 | 95.8 | 95.7 | 97.5 | 98.8 | 100.9 | 103.8 | 106.9 | 110.8 | 112.3 | 115.2 |
| 2000 | 99.0 | 97.7 | 97.6 | 95.7 | 95.1 | 94.7 | 95.9 | 99.0 | 100.4 | 104.1 | 105.4 | 108.7 | 110.2 |
| 2500 | 100.8 | 99.8 | 100.7 | 98.7 | 97.8 | 96.4 | 96.3 | 99.4 | 100.3 | 104.8 | 103.9 | 107.4 | 107.9 |
| 3150 | 100.1 | 101.0 | 100.5 | 99.8 | 99.1 | 98.4 | 98.0 | 99.5 | 100.6 | 103.7 | 103.4 | 105.8 | 106.1 |
| 4000 | 97.5 | 96.4 | 99.8 | 99.3 | 98.9 | 98.4 | 98.2 | 99.1 | 99.9 | 101.9 | 101.6 | 103.9 | 103.9 |
| 5000 | 97.6 | 98.8 | 99.5 | 98.5 | 98.9 | 98.6 | 98.5 | 99.3 | 100.1 | 102.4 | 101.7 | 103.0 | 102.3 |
| 6300 | 96.7 | 98.3 | 99.1 | 97.9 | 98.5 | 98.0 | 98.0 | 99.5 | 100.2 | 100.3 | 100.4 | 102.7 | 101.2 |
| 8000 | 97.0 | 99.0 | 99.1 | 97.7 | 97.5 | 97.2 | 98.8 | 99.5 | 99.9 | 99.9 | 101.4 | 99.5 | 141.9 |
| 10000 | 97.0 | 99.7 | 100.7 | 99.7 | 99.0 | 98.7 | 98.5 | 99.3 | 99.7 | 99.6 | 102.3 | 99.8 | 143.1 |
| 12500 | 96.0 | 98.2 | 100.2 | 99.7 | 100.3 | 100.0 | 98.6 | 99.0 | 98.1 | 97.5 | 98.5 | 102.3 | 99.0 |
| 15000 | 93.4 | 96.6 | 98.1 | 98.1 | 99.2 | 98.0 | 98.1 | 97.2 | 94.8 | 96.2 | 100.5 | 97.3 | 143.8 |
| 20000 | 91.7 | 94.2 | 96.0 | 96.3 | 98.3 | 98.3 | 97.2 | 96.0 | 95.2 | 92.6 | 94.6 | 95.6 | 144.0 |
| 25000 | 88.8 | 92.0 | 94.5 | 94.3 | 96.6 | 97.7 | 96.9 | 94.7 | 94.2 | 91.5 | 92.0 | 94.9 | 144.8 |
| 31500 | 83.3 | 86.9 | 89.7 | 89.0 | 92.0 | 93.1 | 91.8 | 91.0 | 90.5 | 87.7 | 87.9 | 86.4 | 143.4 |
| 40000 | 78.7 | 84.7 | 87.0 | 86.9 | 89.9 | 90.5 | 88.8 | 89.1 | 88.8 | 86.0 | 88.6 | 84.2 | 145.3 |
| 50000 | 78.2 | 82.7 | 84.9 | 84.7 | 87.9 | 88.9 | 87.6 | 87.7 | 87.0 | 83.9 | 84.0 | 86.2 | 147.4 |
| 63000 | 74.4 | 79.4 | 81.7 | 81.5 | 84.2 | 85.9 | 83.3 | 83.4 | 84.1 | 81.2 | 81.6 | 83.6 | 149.6 |
| 80000 | 68.1 | 74.5 | 77.8 | 77.4 | 79.7 | 81.5 | 78.7 | 78.1 | 79.8 | 76.0 | 76.7 | 78.8 | 151.8 |
| DBA | 108.7 | 109.3 | 109.8 | 108.8 | 108.8 | 108.5 | 108.8 | 110.3 | 111.6 | 115.1 | 118.0 | 121.8 | 122.6 |
| PNL | 122.9 | 123.8 | 124.3 | 122.9 | 123.1 | 123.0 | 123.7 | 124.7 | 127.9 | 129.4 | 132.8 | 133.4 | 133.4 |
| QASPL | 108.8 | 110.0 | 110.8 | 110.0 | 110.5 | 110.4 | 110.6 | 111.5 | 112.3 | 115.5 | 119.1 | 123.1 | 123.8 |

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OF POOR QUALITY

VEHICLE = ADH140 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 DEG WIND VEL = NO PWL AREA = FULL SPHERE EXT DIST = 40.0 FT EXT CONFIG = ARC TAMB F = 79.00 FAMB HG = 29.45 RELHUM = 47.2 PCT
FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 1728.7 FPS AE8 = 19.9 SQ IN
FNRAMB = LBS XNL RPM XNH XNHR = RPM V8 = 1728.7 FPS AE8 = 19.9 SQ IN
CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1615 X1615F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL 127.5 134.1 134.1 134.1 134.1 134.1 134.1 134.1 134.1 134.1 134.1 134.1 134.1

50 78.3 80.6 82.3 83.1 83.1 83.1 83.1 83.1 83.1 83.1 83.1 83.1

63 81.0 86.2 90.8 91.3 91.3 91.3 91.3 91.3 91.3 91.3 91.3 91.3

80 83.7 88.2 84.5 85.8 85.9 87.5 87.9 87.8 87.5 86.6 88.9 93.9

100 84.2 89.5 85.8 86.3 87.9 87.8 89.1 89.2 90.5 96.6 101.0 102.7

125 82.9 86.4 88.2 89.5 89.4 90.0 89.7 89.2 90.5 96.6 101.0 102.7

160 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4

200 81.3 85.1 85.6 86.3 87.9 90.5 91.4 92.9 93.0 99.1 104.5 107.2

250 81.3 89.3 85.6 87.0 89.6 91.7 92.9 93.6 97.7 104.5 108.7 110.4

315 83.3 86.8 86.8 89.1 90.5 90.6 92.5 93.9 95.8 99.7 105.5 110.7

400 82.6 87.4 87.7 87.0 89.6 90.2 95.8 94.7 96.2 102.3 108.1 112.3

500 84.5 87.5 88.0 89.6 91.3 92.9 94.3 97.0 103.6 109.5 113.4 113.5

630 85.3 88.6 90.1 91.2 91.8 93.4 95.4 97.1 104.4 110.0 115.0 115.1

800 89.2 89.9 91.7 91.7 93.1 93.5 94.3 97.5 99.5 105.0 110.7 114.1

1000 93.3 94.8 96.6 95.4 95.0 94.3 96.0 97.9 100.3 104.7 109.3 114.1

1250 91.0 94.6 95.9 97.7 98.6 98.7 98.4 100.3 104.4 108.0 112.2 114.0

1600 95.1 95.3 95.4 94.5 95.8 95.7 97.5 98.8 100.9 103.8 106.9 110.8

2000 99.0 97.7 97.6 95.7 95.1 94.7 95.9 99.0 100.4 104.1 105.4 108.7

2500 100.8 99.8 100.7 98.7 97.8 96.4 96.3 100.3 104.8 107.9 107.9 107.9

3150 100.1 101.0 100.5 99.8 99.1 98.4 98.0 99.5 100.6 103.7 103.4 105.8

4000 97.5 98.4 99.8 99.3 98.9 98.4 98.2 99.1 99.9 101.9 101.6 103.9

5000 97.6 98.6 99.5 98.5 98.6 98.5 99.3 99.3 100.1 102.4 101.7 103.0

6300 96.7 98.3 99.1 97.9 98.5 98.0 98.0 99.5 100.2 100.3 100.4 102.7

8000 97.2 99.0 99.1 97.7 97.5 97.2 98.8 99.5 99.9 101.4 99.9 101.9

10000 97.0 99.7 100.7 99.7 99.0 98.7 98.5 98.7 99.3 99.6 99.6 102.3

12500 96.0 98.2 100.2 99.7 100.0 98.6 99.0 98.1 97.2 97.5 98.5 102.3

16000 93.4 96.6 98.1 99.7 99.2 98.0 98.1 97.2 94.8 96.2 100.5 97.3

20000 91.7 94.2 96.0 96.3 98.3 98.3 97.2 96.0 95.2 92.6 94.6 99.5

25000 88.8 92.0 94.3 96.6 97.7 96.9 94.2 91.5 92.0 94.9 91.9 94.8

31500 83.3 89.9 89.7 89.0 92.0 93.1 91.8 91.0 90.5 87.7 87.9 90.9

40000 80.7 84.7 87.0 87.9 88.9 90.5 90.1 89.1 88.8 86.0 86.5 88.6

50000 78.2 82.7 84.9 84.7 87.9 88.9 87.6 85.7 87.0 83.9 84.0 86.2

63000 74.4 79.4 81.7 81.5 84.2 85.9 83.3 83.4 84.1 81.6 81.6 83.6

80000 68.1 74.5 77.8 77.4 79.7 81.5 78.7 78.1 79.8 76.0 76.7 78.8

DBA 190.0 195.9 199.0 198.6 201.0 202.8 200.1 199.6 201.0 197.5 198.1 200.1

PNLT 122.9 123.8 124.3 122.9 123.1 123.0 123.7 124.7 127.9 129.4 132.8 133.4

GASPL 108.8 110.0 110.8 112.0 110.5 110.4 110.6 111.5 112.3 115.5 119.1 123.1

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. DIAM (IN)= 48.00

NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514

VEHICLE = ADH140 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6

MODEL = AX FLTVL = 0. FPS PAMB HG = 29.45 MIKE HT = 79.00

WIND DIR = 5859 DEG WIND VEL = NO MPH PWL AREA = FULL SPHERE EXT DIST = 40.0 FT

FINI = LBS XNL RPM XNH RPM V8 = 1728.7 FPS AE8 = 19.9 SQ IN

IRAMB = LBS XNLR RPM XNHR RPM V18 = 1728.7 FPS AE18 = 19.9 SQ IN

PT = -ZER-1615 TAPE = X1615F TEST PT NO = 161 NC = AE048 CORR FAN SPEED =

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DATPROC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1615 X16151

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 50 | 61.7 | 68.0 | 69.3 | 69.3 | 72.3 | 73.1 | 78.6 | 77.1 | 77.8 | 82.8 | 87.2 | 89.2 | 86.5 | 163.9 |
| 63 | 63.5 | 68.0 | 69.4 | 70.4 | 72.4 | 74.1 | 75.6 | 76.6 | 78.6 | 84.1 | 88.5 | 90.2 | 87.0 | 164.8 |
| 80 | 64.2 | 69.1 | 71.7 | 72.4 | 73.9 | 74.7 | 76.2 | 77.7 | 78.7 | 84.9 | 89.0 | 91.7 | 88.4 | 166.1 |
| 100 | 68.0 | 70.4 | 73.2 | 74.0 | 75.8 | 76.3 | 77.0 | 79.8 | 81.0 | 85.5 | 89.5 | 90.7 | 87.9 | 165.9 |
| 125 | 72.0 | 75.2 | 78.0 | 77.6 | 77.6 | 77.1 | 78.6 | 80.1 | 81.8 | 85.0 | 88.1 | 89.9 | 87.1 | 165.4 |
| 160 | 69.6 | 74.7 | 75.9 | 77.9 | 80.2 | 81.2 | 80.4 | 81.6 | 84.6 | 88.6 | 88.4 | 86.5 | 164.9 | |
| 200 | 73.4 | 75.3 | 76.6 | 76.4 | 78.1 | 78.1 | 79.8 | 80.7 | 82.1 | 83.7 | 85.2 | 86.7 | 84.4 | 163.7 |
| 250 | 77.0 | 77.4 | 77.4 | 77.2 | 78.5 | 77.2 | 78.1 | 80.7 | 81.3 | 83.9 | 84.4 | 84.2 | 81.7 | 162.6 |
| 315 | 78.4 | 79.2 | 81.2 | 80.1 | 79.6 | 78.4 | 78.2 | 80.8 | 80.9 | 84.2 | 81.4 | 82.3 | 78.6 | 162.4 |
| 400 | 77.2 | 79.9 | 80.7 | 80.8 | 80.6 | 80.1 | 79.6 | 80.6 | 80.8 | 82.6 | 80.5 | 80.1 | 75.8 | 162.1 |
| 500 | 74.1 | 77.0 | 79.7 | 80.1 | 80.2 | 79.8 | 79.5 | 79.8 | 79.9 | 80.5 | 78.2 | 77.6 | 72.6 | 160.9 |
| 630 | 73.7 | 77.0 | 79.0 | 79.0 | 79.9 | 79.3 | 78.9 | 79.6 | 80.6 | 77.9 | 76.0 | 74.9 | 67.6 | 160.5 |
| 800 | 72.3 | 76.1 | 78.4 | 78.1 | 79.3 | 78.9 | 78.8 | 79.7 | 79.5 | 78.1 | 76.0 | 74.9 | 67.6 | 160.5 |
| 1000 | 72.3 | 76.5 | 78.1 | 77.8 | 78.3 | 78.3 | 77.8 | 78.9 | 78.6 | 77.4 | 75.0 | 72.9 | 64.8 | 160.4 |
| 1250 | 71.6 | 76.9 | 79.5 | 79.4 | 79.4 | 78.9 | 78.5 | 78.1 | 76.8 | 74.3 | 73.1 | 71.7 | 60.5 | 161.6 |
| 1600 | 69.8 | 74.7 | 78.6 | 79.3 | 80.4 | 80.4 | 78.7 | 78.5 | 76.5 | 74.1 | 72.3 | 71.7 | 60.5 | 162.2 |
| 2000 | 66.2 | 72.6 | 76.1 | 77.4 | 79.7 | 79.5 | 78.0 | 77.4 | 75.2 | 70.8 | 69.1 | 68.3 | 55.8 | 162.3 |
| 2500 | 62.7 | 68.9 | 73.2 | 74.9 | 77.8 | 78.1 | 76.6 | 74.7 | 72.3 | 67.3 | 65.6 | 64.5 | 49.2 | 162.5 |
| 3150 | 56.5 | 64.3 | 69.7 | 71.4 | 74.7 | 76.1 | 75.0 | 71.8 | 69.5 | 63.8 | 59.7 | 54.9 | 49.2 | 163.3 |
| 4000 | 44.7 | 54.5 | 61.1 | 62.8 | 67.1 | 68.6 | 67.0 | 64.8 | 61.9 | 55.2 | 49.3 | 42.0 | 37.1 | 161.9 |
| 5000 | 32.4 | 44.8 | 52.2 | 55.4 | 60.1 | 61.2 | 60.3 | 57.5 | 54.0 | 46.0 | 38.1 | 25.9 | | 163.8 |
| 6300 | 12.1 | 28.6 | 38.0 | 42.3 | 47.9 | 49.7 | 47.6 | 43.3 | 40.1 | 29.7 | 17.9 | | | 165.9 |
| 8000 | | 0.4 | | | | | | | | | | | | 168.1 |
| 10000 | | | | | | | | | | | | | | 170.3 |

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OF POOR QUALITY

NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514

VEHICLE = ADH140 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 0. FPS

IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.45 RELHUM = 47.2 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBRF

FNIN1 = LBS XNL RPM XNHL XNHR = V8 = 1728.7 FPS AEB = 19.9 SO IN

FNRMAB = LBS XNLR RPM XNHL XNHR = V8 = 1728.7 FPS AEB = 19.9 SO IN

RUNPT = 82F-ZER-1615 TAPE = X16151 TEST PT NO = 1615 NC = AE048 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1619 X1619C

BACKGROUND 82F-400-0600

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 78.5 79.8 83.8 84.4 81.7 78.1 86.7 87.6 80.6 79.4 87.0 86.0 87.1 126.2

63 80.7 89.2 89.4 84.8 87.4 87.1 88.5 87.8 82.5 87.8 89.6 90.6 134.8

80 83.4 88.0 84.5 85.5 85.4 87.5 87.6 87.3 87.7 87.1 88.7 92.6 93.8 129.9

100 84.0 89.5 85.5 86.3 87.4 87.8 88.4 90.6 88.5 89.1 93.2 96.9 98.6 132.7

125 83.4 86.6 88.4 88.7 89.8 89.7 90.2 89.4 91.2 97.6 101.8 103.2 136.1

160 82.0 79.5 85.8 84.1 86.2 86.6 91.4 87.3 90.4 97.5 101.7 104.9 136.1

200 81.3 85.1 86.1 85.9 87.0 87.9 91.0 91.4 92.4 93.7 99.3 104.3 107.2 138.5

250 81.5 89.1 86.3 85.9 87.2 90.1 91.7 92.9 93.3 98.4 105.0 109.5 110.4 142.6

315 83.3 87.1 87.3 88.9 90.5 90.6 92.7 94.1 95.6 100.2 105.8 111.0 112.4 144.1

400 83.1 87.4 88.2 87.0 89.6 90.4 94.7 96.1 97.4 103.0 108.4 113.3 113.2 146.0

500 85.0 87.2 88.0 88.3 89.6 91.3 92.9 94.8 97.3 103.8 109.7 114.4 114.0 147.0

630 86.0 87.2 88.0 88.3 89.6 91.3 92.9 94.8 97.3 103.8 109.7 114.4 114.0 147.8

800 86.0 87.2 88.0 88.3 89.6 91.3 92.9 94.8 97.3 103.8 109.7 114.4 114.0 147.8

1000 86.0 87.2 88.0 88.3 89.6 91.3 92.9 94.8 97.3 103.8 109.7 114.4 114.0 147.8

1250 86.0 87.2 88.0 88.3 89.6 91.3 92.9 94.8 97.3 103.8 109.7 114.4 114.0 147.8

1500 86.0 87.2 88.0 88.3 89.6 91.3 92.9 94.8 97.3 103.8 109.7 114.4 114.0 147.8

1600 86.0 87.2 88.0 88.3 89.6 91.3 92.9 94.8 97.3 103.8 109.7 114.4 114.0 147.8

2000 86.0 87.2 88.0 88.3 89.6 91.3 92.9 94.8 97.3 103.8 109.7 114.4 114.0 147.8

2500 86.0 87.2 88.0 88.3 89.6 91.3 92.9 94.8 97.3 103.8 109.7 114.4 114.0 147.8

3150 86.0 87.2 88.0 88.3 89.6 91.3 92.9 94.8 97.3 103.8 109.7 114.4 114.0 147.8

4000 86.0 87.2 88.0 88.3 89.6 91.3 92.9 94.8 97.3 103.8 109.7 114.4 114.0 147.8

5000 86.0 87.2 88.0 88.3 89.6 91.3 92.9 94.8 97.3 103.8 109.7 114.4 114.0 147.8

6300 86.0 87.2 88.0 88.3 89.6 91.3 92.9 94.8 97.3 103.8 109.7 114.4 114.0 147.8

8000 86.0 87.2 88.0 88.3 89.6 91.3 92.9 94.8 97.3 103.8 109.7 114.4 114.0 147.8

10000 86.0 87.2 88.0 88.3 89.6 91.3 92.9 94.8 97.3 103.8 109.7 114.4 114.0 147.8

12500 86.0 87.2 88.0 88.3 89.6 91.3 92.9 94.8 97.3 103.8 109.7 114.4 114.0 147.8

15000 86.0 87.2 88.0 88.3 89.6 91.3 92.9 94.8 97.3 103.8 109.7 114.4 114.0 147.8

16000 86.0 87.2 88.0 88.3 89.6 91.3 92.9 94.8 97.3 103.8 109.7 114.4 114.0 147.8

20000 86.0 87.2 88.0 88.3 89.6 91.3 92.9 94.8 97.3 103.8 109.7 114.4 114.0 147.8

25000 86.0 87.2 88.0 88.3 89.6 91.3 92.9 94.8 97.3 103.8 109.7 114.4 114.0 147.8

31500 86.0 87.2 88.0 88.3 89.6 91.3 92.9 94.8 97.3 103.8 109.7 114.4 114.0 147.8

40000 86.0 87.2 88.0 88.3 89.6 91.3 92.9 94.8 97.3 103.8 109.7 114.4 114.0 147.8

50000 86.0 87.2 88.0 88.3 89.6 91.3 92.9 94.8 97.3 103.8 109.7 114.4 114.0 147.8

63000 86.0 87.2 88.0 88.3 89.6 91.3 92.9 94.8 97.3 103.8 109.7 114.4 114.0 147.8

80000 86.0 87.2 88.0 88.3 89.6 91.3 92.9 94.8 97.3 103.8 109.7 114.4 114.0 147.8

QASPL 110.0 111.1 112.0 113.0 114.0 115.0 116.0 117.0 118.0 119.0 120.0 121.0 122.0 123.0 124.0 125.0 126.0 127.0 128.0 129.0 130.0 131.0 132.0 133.0 134.0 135.0 136.0 137.0 138.0 139.0 140.0 141.0 142.0 143.0 144.0 145.0 146.0 147.0 148.0 149.0 150.0 151.0 152.0 153.0 154.0 155.0 156.0 157.0 158.0 159.0 160.0

NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514

VEHICLE = ADH141 TEST DATE = 06-25-82 LOCAL = CAT ANECH CH CONFIG = 6 MODEL = AX FLTVL = 0. FPS
WIND DIR = SB59 LEGA = NO EXT DIST = 40.0 FT TAMB F = 79.00 PAMB HG = 29.45 RELHUM = 47.2 PCT
WIND DIR = SB59 DEG WIND VEL = MPH PWL AREA = FULL SPHERE EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH = RPM XNHR = RPM V8 = 1738.0 FPS AE8 = 19.9 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = FPS AE18 = 0. SQ IN

TEST PT NO = 1619 NC = AE048 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1619 X1619F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 76.5 79.6 83.6 84.4 81.7 78.1 86.7 87.6 80.6 79.4 87.0 86.0 87.1 126.2

63 80.7 82.6 89.4 84.8 87.4 97.1 88.5 87.8 92.5 90.9 90.6 134.8

80 83.4 86.0 84.3 85.5 85.4 87.5 87.6 87.3 87.1 88.7 92.6 93.8 129.9

100 84.0 89.5 86.3 87.4 87.8 88.4 90.6 88.5 89.1 93.2 96.9 98.6 132.7

125 82.0 86.6 86.4 88.7 89.8 89.7 90.3 90.2 89.4 91.2 97.6 101.8 136.1

160 81.3 85.1 86.1 85.9 87.0 87.9 91.0 91.4 92.4 93.7 99.3 104.3 138.5

200 83.1 87.4 88.2 87.0 89.6 90.4 96.1 94.7 96.4 103.0 108.4 113.3 146.0

250 83.3 87.1 87.3 88.9 90.5 90.6 92.7 94.1 95.6 100.2 105.6 110.4 144.1

315 83.3 87.4 88.5 89.0 90.4 91.7 92.3 93.4 95.9 97.6 104.9 110.9 147.8

400 84.0 89.5 86.3 87.4 87.8 88.4 90.6 88.5 89.1 93.2 96.9 98.6 142.6

500 85.0 87.2 88.0 88.3 89.6 91.3 92.9 94.8 97.3 103.8 109.7 114.4 147.0

630 86.0 89.3 90.8 91.7 92.3 93.4 95.9 97.6 104.9 110.9 114.8 147.8

800 89.2 89.9 92.2 93.3 93.7 94.3 98.0 99.2 105.5 110.9 114.8 147.8

1000 94.3 96.1 97.1 95.4 95.7 94.8 95.5 96.1 100.1 105.2 109.5 114.1 147.3

1250 97.1 96.8 95.5 95.8 96.4 97.8 99.6 101.4 104.3 107.4 113.3 118.7 146.7

1500 102.0 99.9 99.4 97.0 95.8 96.4 99.5 101.1 104.6 109.9 111.2 145.0

2000 102.6 102.3 102.9 100.7 99.3 97.4 97.1 99.4 100.3 105.1 104.6 107.4 144.8

2500 102.6 102.3 102.9 100.7 99.3 97.4 97.1 99.4 100.3 105.1 104.6 107.4 144.8

3150 100.6 102.5 102.2 101.5 101.3 100.7 98.8 98.5 100.2 104.2 104.6 107.1 144.6

4000 98.5 99.4 100.6 100.9 100.4 99.5 99.8 99.8 99.8 99.8 99.8 99.8 143.4

5000 98.6 99.8 100.5 99.5 99.5 99.5 99.5 99.5 99.5 99.5 99.5 99.5 143.3

6300 97.0 98.9 99.9 98.9 98.9 98.9 98.9 98.9 98.9 98.9 98.9 98.9 142.8

8000 97.7 100.0 100.3 99.0 98.7 98.5 98.0 99.6 100.5 100.6 100.6 100.7 142.7

10000 97.2 100.4 102.0 101.0 99.7 100.0 99.0 99.4 100.1 100.4 100.4 100.4 143.8

12500 96.5 98.2 101.2 100.7 101.5 101.2 99.1 99.7 98.8 97.8 98.5 99.5 144.3

15000 94.2 97.1 98.6 98.1 100.2 99.9 98.6 98.3 98.6 97.0 98.5 97.3 144.2

20000 92.2 94.4 96.5 96.3 98.6 98.8 97.9 96.3 95.4 93.1 95.1 96.0 144.1

25000 89.3 92.0 94.7 94.3 97.4 98.2 96.9 95.7 95.0 92.3 92.7 93.9 145.2

31500 83.3 87.4 89.5 89.0 92.2 93.6 92.3 91.5 90.7 88.4 89.1 89.7 143.7

40000 80.4 85.2 88.0 87.3 90.4 91.0 90.1 89.1 89.0 86.8 87.7 87.6 145.6

50000 78.4 82.7 85.4 84.9 88.1 89.1 87.6 86.2 86.8 84.6 84.8 84.5 147.6

63000 74.4 79.1 82.2 81.7 85.2 86.1 83.6 84.1 84.1 81.7 82.4 82.1 149.9

80000 68.6 74.5 78.6 77.6 81.7 82.2 81.7 82.2 81.7 77.7 77.7 76.5 152.0

DBA 190.4 195.9 199.7 198.8 201.3 203.0 200.0 199.7 201.0 198.6 199.0 198.1 193.6

PWL 123.1 124.3 125.5 125.6 123.7 123.3 123.2 124.1 125.2 126.4 130.1 133.0 134.1

PWL 110.0 111.1 112.0 111.0 111.4 111.3 111.2 112.0 112.7 116.1 119.5 123.6 124.1 160.4

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH141 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB39 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.45 RELHUM = 47.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR

ORIGINAL PAGE 3
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DATPRC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1619 X16191

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-----|
| 50 | 62.2 | 68.0 | 69.8 | 72.3 | 73.3 | 78.8 | 77.1 | 78.1 | 83.6 | 87.4 | 90.2 | 86.7 | 164.5 | |
| 63 | 64.0 | 67.8 | 69.6 | 72.4 | 74.1 | 75.6 | 77.1 | 78.9 | 84.4 | 88.7 | 91.2 | 87.5 | 165.4 | |
| 80 | 65.0 | 69.8 | 72.4 | 74.4 | 75.2 | 76.2 | 78.2 | 79.2 | 85.4 | 89.5 | 91.9 | 88.2 | 166.3 | |
| 100 | 68.0 | 70.4 | 73.7 | 74.5 | 76.0 | 76.5 | 77.0 | 80.3 | 80.7 | 86.0 | 91.5 | 88.2 | 166.4 | |
| 125 | 73.0 | 76.4 | 78.5 | 77.6 | 78.3 | 77.6 | 78.1 | 80.3 | 81.5 | 85.5 | 88.3 | 90.7 | 165.8 | |
| 160 | 69.8 | 75.0 | 76.4 | 78.4 | 80.4 | 81.9 | 82.2 | 80.9 | 81.6 | 85.3 | 86.8 | 88.9 | 165.1 | |
| 200 | 75.4 | 76.8 | 77.3 | 77.4 | 78.1 | 78.9 | 80.1 | 81.5 | 82.6 | 84.2 | 85.7 | 86.7 | 164.3 | |
| 250 | 80.0 | 79.7 | 78.0 | 78.0 | 77.7 | 78.6 | 81.2 | 82.0 | 84.4 | 83.9 | 85.0 | 82.7 | 163.5 | |
| 315 | 80.2 | 81.7 | 83.5 | 82.1 | 81.1 | 79.4 | 78.9 | 80.8 | 80.9 | 84.5 | 82.2 | 79.3 | 163.2 | |
| 400 | 77.7 | 81.4 | 82.5 | 82.6 | 82.4 | 80.3 | 80.6 | 81.3 | 83.1 | 81.5 | 80.4 | 76.8 | 163.1 | |
| 500 | 75.1 | 78.0 | 80.7 | 81.3 | 82.2 | 81.8 | 80.8 | 80.6 | 80.1 | 81.2 | 79.0 | 78.1 | 161.9 | |
| 630 | 74.7 | 78.0 | 80.0 | 80.0 | 80.7 | 81.0 | 80.8 | 80.8 | 80.4 | 80.8 | 78.9 | 76.5 | 161.8 | |
| 800 | 73.6 | 77.3 | 79.1 | 79.1 | 80.5 | 79.4 | 79.3 | 80.7 | 80.5 | 79.4 | 77.0 | 74.2 | 161.3 | |
| 1000 | 72.8 | 77.5 | 79.4 | 79.0 | 79.3 | 79.3 | 78.6 | 79.6 | 78.1 | 75.3 | 72.2 | 66.1 | 161.1 | |
| 1250 | 71.9 | 77.6 | 80.8 | 80.2 | 80.6 | 79.4 | 79.3 | 78.9 | 77.6 | 75.0 | 71.6 | 64.2 | 162.3 | |
| 1600 | 70.3 | 74.7 | 79.6 | 80.3 | 81.7 | 79.2 | 79.3 | 77.2 | 74.3 | 72.3 | 69.9 | 61.0 | 162.8 | |
| 2000 | 67.0 | 73.1 | 76.6 | 77.4 | 80.2 | 79.3 | 77.9 | 75.5 | 71.6 | 69.8 | 66.3 | 55.8 | 162.6 | |
| 2500 | 63.2 | 69.2 | 73.7 | 74.9 | 78.0 | 76.6 | 77.4 | 72.6 | 67.8 | 66.1 | 61.0 | 49.7 | 162.6 | |
| 3150 | 57.0 | 64.3 | 70.0 | 71.4 | 75.5 | 76.6 | 75.0 | 72.8 | 70.2 | 64.6 | 53.9 | 37.6 | 163.7 | |
| 4000 | 44.7 | 55.0 | 60.9 | 62.8 | 67.4 | 69.1 | 67.5 | 65.3 | 62.1 | 56.0 | 50.5 | 40.7 | 162.2 | |
| 5000 | 32.1 | 45.3 | 53.2 | 55.7 | 60.6 | 61.7 | 60.3 | 57.5 | 54.2 | 46.8 | 39.4 | 24.9 | 164.1 | |
| 6300 | 12.3 | 28.6 | 38.5 | 42.5 | 48.2 | 49.9 | 47.6 | 43.8 | 39.9 | 30.4 | 18.6 | | 166.1 | |
| 8000 | 0.1 | | | | | | | | | | | | 168.4 | |
| 10000 | | | | | | | | | | | | | 170.4 | |

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MODEL AREA = 128.3 SQ CM (19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9
 NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514
 VEHICL = ADH141 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6
 IAPLHA = S859 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 79.00 MIKE HI = 29.45 PAMB HG = AX FLTVEL = 0. FPS
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL
 FNIN1 = LBS XNL RPM XNH RPM V8 = 1738.0 FPS AE8 = 19.9 SQ IN
 FNRAMB = LBS XNLR RPM XNHR RPM V18 = 1738.0 FPS AE18 = 19.9 SQ IN
 RUNPT = 82F-ZER-1619 TAPE = X16191 TEST PT NO = 1619 NC = AE048 CORR FAN SPEED = RPM

DATP FLTRAN

07/19/82 8.658 PAC

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1621 X1621F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50 | 78.0 | 80.1 | 81.6 | 83.1 | 82.7 | 79.3 | 84.7 | 87.1 | 81.1 | 79.9 | 85.8 | 86.5 | 87.9 | 125.6 |
| 63 | 81.0 | 88.7 | 89.9 | 91.1 | 90.6 | 86.8 | 96.4 | 86.6 | 88.3 | 87.8 | 89.0 | 89.2 | 90.6 | 133.8 |
| 80 | 83.7 | 88.2 | 86.9 | 85.5 | 85.6 | 87.7 | 88.1 | 87.8 | 87.5 | 88.7 | 88.7 | 88.7 | 92.9 | 130.2 |
| 100 | 84.2 | 89.5 | 87.9 | 86.3 | 88.1 | 87.8 | 87.9 | 90.6 | 89.0 | 89.1 | 93.2 | 97.4 | 99.1 | 133.0 |
| 125 | 82.9 | 86.1 | 87.3 | 88.4 | 89.5 | 89.8 | 89.8 | 89.2 | 88.9 | 90.7 | 97.1 | 103.3 | 103.7 | 135.7 |
| 160 | 82.0 | 79.8 | 81.8 | 83.8 | 86.4 | 86.8 | 86.4 | 87.3 | 88.3 | 90.9 | 97.5 | 101.7 | 105.1 | 136.3 |
| 200 | 81.6 | 85.6 | 85.9 | 86.2 | 86.8 | 88.1 | 90.5 | 91.9 | 93.1 | 93.7 | 99.6 | 104.8 | 107.7 | 138.9 |
| 250 | 81.8 | 89.3 | 87.8 | 86.4 | 87.5 | 90.1 | 92.2 | 93.4 | 93.6 | 98.4 | 104.8 | 109.2 | 110.9 | 142.6 |
| 315 | 83.3 | 87.8 | 88.5 | 89.1 | 91.0 | 90.8 | 93.0 | 94.6 | 96.1 | 100.2 | 105.8 | 110.7 | 112.6 | 144.2 |
| 400 | 83.1 | 87.9 | 87.6 | 87.2 | 89.8 | 89.9 | 96.1 | 94.7 | 96.9 | 103.3 | 108.6 | 113.3 | 114.0 | 146.3 |
| 500 | 85.0 | 87.7 | 88.1 | 88.5 | 90.1 | 91.0 | 92.9 | 95.0 | 97.8 | 104.1 | 109.5 | 113.9 | 114.3 | 146.8 |
| 630 | 86.0 | 89.3 | 89.8 | 90.4 | 91.7 | 92.3 | 93.7 | 96.1 | 97.8 | 105.1 | 111.0 | 115.2 | 115.4 | 148.1 |
| 800 | 89.2 | 89.9 | 91.3 | 92.7 | 93.6 | 93.7 | 94.6 | 98.0 | 100.0 | 105.8 | 111.2 | 114.8 | 115.3 | 148.1 |
| 1000 | 94.3 | 96.1 | 96.1 | 95.7 | 94.8 | 96.0 | 98.4 | 100.8 | 105.7 | 109.8 | 114.7 | 114.6 | 114.6 | 147.8 |
| 1250 | 91.5 | 94.8 | 95.6 | 96.4 | 95.5 | 96.6 | 96.7 | 98.3 | 99.6 | 101.2 | 104.8 | 107.9 | 111.8 | 147.2 |
| 1600 | 97.9 | 97.3 | 96.4 | 95.5 | 96.6 | 96.7 | 98.3 | 99.6 | 101.2 | 104.8 | 107.9 | 111.8 | 113.3 | 146.2 |
| 2000 | 102.3 | 100.9 | 99.5 | 98.0 | 96.6 | 96.0 | 96.7 | 99.5 | 101.4 | 105.4 | 106.4 | 110.2 | 112.0 | 145.6 |
| 2500 | 102.6 | 102.3 | 101.8 | 101.2 | 100.3 | 98.1 | 97.1 | 99.4 | 101.2 | 105.6 | 105.4 | 107.1 | 109.4 | 145.3 |
| 3150 | 101.1 | 102.2 | 101.9 | 101.5 | 102.1 | 101.2 | 99.5 | 99.8 | 101.6 | 104.7 | 104.4 | 107.1 | 108.1 | 145.0 |
| 4000 | 98.5 | 99.7 | 100.0 | 100.3 | 100.6 | 100.4 | 99.5 | 100.3 | 100.9 | 102.6 | 103.1 | 105.2 | 105.7 | 143.7 |
| 5000 | 98.4 | 100.3 | 100.3 | 100.2 | 99.6 | 100.0 | 100.6 | 101.8 | 103.7 | 103.0 | 103.8 | 104.0 | 104.3 | 143.7 |
| 6300 | 98.2 | 99.8 | 99.4 | 99.1 | 100.3 | 99.2 | 99.3 | 100.7 | 101.7 | 101.6 | 102.7 | 103.2 | 103.2 | 143.0 |
| 8000 | 97.7 | 100.5 | 99.9 | 99.2 | 98.7 | 99.0 | 98.2 | 100.3 | 100.8 | 100.9 | 101.6 | 101.5 | 101.5 | 143.0 |
| 10000 | 97.5 | 99.9 | 100.4 | 101.0 | 100.7 | 100.2 | 99.0 | 99.9 | 100.3 | 100.7 | 100.9 | 101.6 | 101.3 | 144.0 |
| 12500 | 96.7 | 99.8 | 99.4 | 100.7 | 101.5 | 101.7 | 99.6 | 99.5 | 99.3 | 98.0 | 99.2 | 100.3 | 100.3 | 144.2 |
| 16000 | 93.9 | 96.9 | 98.1 | 100.5 | 100.2 | 99.0 | 98.4 | 98.0 | 96.1 | 97.5 | 98.8 | 98.5 | 98.5 | 144.2 |
| 20000 | 92.2 | 93.9 | 95.1 | 96.3 | 98.6 | 98.6 | 98.2 | 96.8 | 95.9 | 93.6 | 95.4 | 96.8 | 96.9 | 144.2 |
| 25000 | 88.8 | 91.7 | 93.0 | 94.3 | 97.1 | 98.0 | 97.4 | 95.7 | 93.3 | 92.7 | 94.9 | 92.9 | 92.9 | 145.1 |
| 31500 | 83.8 | 87.2 | 88.2 | 89.3 | 92.2 | 93.6 | 92.3 | 91.5 | 91.0 | 88.2 | 89.1 | 90.4 | 87.1 | 143.7 |
| 40000 | 80.7 | 85.2 | 86.3 | 87.3 | 90.4 | 91.3 | 90.4 | 89.3 | 89.0 | 86.5 | 87.7 | 87.6 | 84.4 | 145.6 |
| 50000 | 79.2 | 82.2 | 83.5 | 84.7 | 88.1 | 89.3 | 87.3 | 87.3 | 87.3 | 84.4 | 85.5 | 85.2 | 81.4 | 147.6 |
| 63000 | 75.1 | 79.1 | 80.4 | 81.7 | 85.2 | 85.6 | 83.3 | 83.9 | 84.4 | 81.4 | 82.8 | 83.1 | 78.5 | 149.8 |
| 80000 | 68.4 | 74.0 | 75.7 | 77.4 | 80.1 | 81.5 | 78.6 | 78.1 | 80.0 | 77.0 | 78.4 | 77.8 | 71.3 | 151.9 |
| DASPL | 110.2 | 111.3 | 111.2 | 111.2 | 111.8 | 111.5 | 111.4 | 112.1 | 113.2 | 116.4 | 119.8 | 123.8 | 124.6 | 160.5 |
| PWL | 123.1 | 124.3 | 124.1 | 123.8 | 124.3 | 123.7 | 123.4 | 124.5 | 125.7 | 128.8 | 130.3 | 133.6 | 134.6 | |
| PWL | 124.5 | 125.5 | 124.1 | 124.4 | 124.3 | 124.9 | 123.9 | 124.5 | 125.7 | 128.8 | 130.3 | 133.6 | 134.6 | |
| DBA | 190.4 | 195.5 | 197.1 | 198.6 | 201.6 | 202.8 | 200.0 | 199.7 | 201.2 | 198.3 | 199.7 | 199.2 | 193.5 | |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHIC = ADH142 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLVEL = 0. FPS
WIND DIR = 5859 DEG WIND VEL = NO MPH PWL AREA = FULL SPHERE EXT DIST = 40.0 FT
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 1744.8 FPS AEB = 19.9 SO IN
RUNIT = 82F-ZER-1621 TAPE = X1621F TEST PT NO = 1621 NC = AE048 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS

59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1621 X16211

ANGLES MEASURED FROM INLET, DEGREES

FREO 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PNL

50 62.2 68.5 69.2 69.6 72.6 72.8 78.8 77.1 78.6 83.8 87.7 90.2 87.5 164.8

63 64.0 68.3 69.8 70.9 72.9 73.9 75.6 77.4 79.4 84.6 88.5 90.7 87.7 165.3

80 65.0 69.8 71.4 72.7 74.4 75.2 76.4 78.4 79.4 85.6 90.0 91.9 88.7 166.5

100 68.0 70.4 72.9 75.0 76.3 76.5 77.3 78.3 80.3 81.5 86.2 90.0 91.5 88.4 166.5

125 73.0 76.4 77.5 78.3 78.3 77.6 78.6 80.6 82.3 86.0 88.6 91.2 87.6 166.2

160 70.1 75.0 76.9 78.4 80.9 81.9 80.6 81.5 82.4 85.6 87.6 89.4 87.0 165.7

200 76.2 77.3 77.5 77.4 78.9 79.1 80.6 81.5 82.3 84.7 86.2 87.7 85.4 164.7

250 80.3 80.7 80.4 79.7 78.7 78.2 78.8 81.2 82.3 85.1 84.4 85.7 83.5 164.1

315 80.2 81.7 82.3 82.6 82.1 80.1 78.9 80.8 81.6 85.0 82.9 83.6 80.1 163.7

400 78.2 81.2 82.1 82.6 83.6 82.9 81.1 80.8 81.8 83.6 81.5 81.4 77.8 163.5

500 75.1 78.2 79.9 81.1 81.9 81.8 80.8 81.1 80.9 81.2 79.7 78.8 74.4 162.1

630 74.5 78.5 79.9 80.7 81.2 80.8 81.0 81.1 81.4 81.8 79.1 76.7 71.7 162.2

800 73.8 77.6 79.3 81.0 80.2 80.0 80.9 81.0 79.6 77.2 74.9 69.1 161.7

1000 72.8 78.0 78.9 79.3 79.8 79.8 80.4 79.8 78.4 75.5 73.2 66.8 161.5

1250 72.1 77.1 79.3 80.8 81.2 80.9 79.4 79.8 79.1 77.8 75.5 72.3 65.2 162.4

1500 70.5 74.7 77.8 80.3 81.7 82.1 79.7 79.0 77.7 74.6 73.0 70.2 61.8 162.9

1600 70.5 74.7 77.8 80.3 81.7 82.1 79.7 79.0 77.7 74.6 73.0 70.2 61.8 162.9

2000 66.7 72.9 75.5 77.4 80.5 80.5 79.0 77.7 76.0 72.1 70.3 66.5 57.0 162.7

2500 63.2 68.7 72.2 74.9 78.0 78.3 77.6 75.4 73.1 68.4 66.4 61.7 50.5 162.6

3150 56.5 64.0 68.3 71.4 75.2 76.4 75.5 72.8 70.5 64.6 60.4 54.9 38.1 163.6

4000 45.2 54.8 59.7 63.1 67.4 69.1 67.5 65.3 62.4 55.7 50.5 41.5 24.9 162.2

5000 32.4 45.3 51.5 55.7 60.6 62.0 60.5 57.7 54.2 46.5 39.4 24.9 16.1 166.1

6300 13.0 28.0 36.6 42.3 48.2 50.2 47.4 43.8 40.4 30.2 19.4 168.3 170.4

8000 0.1 12.2 20.1 27.1 28.6 25.2 22.2 16.1 2.4

10000 82.5 86.3 87.9 89.2 90.5 90.4 89.3 89.2 88.7 88.4 86.9 86.6 82.9

PNLT 93.2 96.7 98.7 99.9 101.8 102.5 101.7 100.4 100.3 100.6 99.5 100.0 96.0

OASPL 87.0 89.7 90.8 91.7 92.6 92.5 92.1 92.6 93.1 95.8 97.7 99.5 96.5 178.8

PNL 92.5 96.0 98.2 99.9 101.8 101.9 101.2 100.4 99.7 99.9 99.5 100.0 96.0

DBA 82.5 86.3 87.9 89.2 90.5 90.4 89.3 89.2 88.7 88.4 86.9 86.6 82.9

MODEL AREA = 128.3 SQ CM (19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREO SHIFT = -9

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICLE = ADH142 TEST DATE = 06-25-82 LOCAL = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVL = 0. FPS
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMR F = 79.00 PAMB HG = 29.50 RELHIM = 47.1 PCT
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =
 RPM XNHL LBS XNLR = RPM XNHR XNH = M V18 = 1744.8 FPS AEB = 19.9 SQ IN
 RPM XNHL LBS XNLR = RPM XNHR XNH = M V18 = 1744.8 FPS AEB = 19.9 SQ IN

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